The following is my written testimony, including the attachment and this letter.
Please provide this to committee members and post it appropriately.

Dear Senator Brenner,

I have been following the legislature for years. And I have seen how numerous committees handle testimony. As far as I know, it has always been permitted for the AUTHOR of a piece of legislation of this magnitude to have more time to speak to the intricacies of legislation - especially legislation of this magnitude.

The testimony that followed mine was false or misleading as I would have explained. I do have a valid cognitive disability. Written communication is my most challenging for communications.

It would have been nice if you would have allowed the truth to be told by permitting more time for the two reasons cited. But even more important, if you want the truth, you need to listen to it.

It was obvious to me that the department was deliberately distorting the administrative costs associated with this bill. There are NO extra costs to the department. There is no extra burden to this bill. The $25 fee guarantees this. If you read the legislation, the State is not obligated to do anything other than review a report periodically to assure that the recycling process is working, or not, and to make policy adjustments as needed. The tracking work is paid for by the $25 per panel fee, it is performed by the recycler, and the state gets a report. Period.

The $100 fee is a realistic estimate of the cost to fully recycle the chemicals of high concern (CHC) in each solar panel. There are NO entities globally that have yet devised the method to recover 100% of the CHCs. I am in the early stages of developing funding to undertake the research to accomplish this chemical challenge.

Although some entities claim 100% recovery, that is false advertising. All recyclers merely burn the residual chemical. And that process merely turns bad chemicals into worse chemicals. No one, despite what may be said by them or others, recycles the CHC's. They process the bulk but not the risk.

If the committee choses to tolerate recovering only 95% of the panels and burn the CHCs – the glass, aluminum and copper can be recovered for $12 per panel approximately PLUS shipping. However, this doesn't address the main reason for recycling. This bill creates JOBS. It brings research to bear that can be expended to other chemicals and products. And frankly, I doubt the consumer will ever face the burden of the fee because manufacturers allegedly pay for recycling already. We just want to make sure they do. With this bill, the mfg. and the seller save the costs of shipping panels back to a factory – which is expensive. Shipping bulk at say 2 lbs. per panel gets very expensive. I'd like those shipping fees to stay in Maine and be used in a recycle to manumanufacturing process.

What I can say is that as a good steward, Maine cannot just ship the problem off to some other state or country. We lose all control of the waste stream if we do this. We need to manage our responsibility for goods we make and/or use or use up right here at home before we ask our neighbors to bare that burden.

Consumers will never see the $100 fee, and they should expect that there's no free lunch on disposal of chemicals. Cadmium Telluride is as bad as PFAS and Hexavalent Chromium. We need to endeavor to keep this out of our soils – at any cost.

What we are already seeing is people selling homes with damaged panels, leaving that problem to unexpecting buyers. We see the efficiency of panels going up, and just like the latest iPad, everyone has to upgrade. We know that hail storms can kill a lot of panels. And we know there are manufacturing flaws and other problems that produce damaged panels over time.

I have attached my research to inform those who really care about our environment. What is amazing is that environmentalists would chose profits over stewardship. Solar manufacturers make a lot of money – more every day – let them absorb the costs.

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130th MAINE LEGISLATURE

FIRST SPECIAL SESSION-2021

Legislative Document **No. 1595**

H.P. 1184 House of Representatives, April 27, 2021

An Act To Address Waste Associated with Solar Energy Equipment

Reference to the Committee on Environment and Natural Resources suggested and ordered printed.

ROBERT B. HUNT
Clerk

Presented by Representative O'CONNOR of Berwick.
Cosponsored by Senator WOODSOME of York and
Representatives: FOSTER of Dexter, GRIFFIN of Levant, GRIGNON of Athens, KINNEY of Knox, MASON of Lisbon, SAMPSON of Alfred, WADSWORTH of Hiram, WHITE of Mars Hill.

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 5 MRSA §1764, sub-§3, ¶C, as repealed and replaced by PL 1977, c. 563, §2, is amended to read:

C. The effect of insulation incorporated into the facility design and the effect on solar utilization to the properties of external surfaces, including the costs of recycling;

Sec. 2. 5 MRSA §1764, sub-§3, ¶F, as enacted by PL 2007, c. 671, §3, is amended to read:

F. The cost-effectiveness of integrating wind or solar electricity generating equipment into the design and construction of the facility, including the costs of recycling.

Sec. 3. 5 MRSA §15312 is enacted to read:

§15312. Funding of recycling process development, equipment and facility

Notwithstanding any provision of law to the contrary, funds appropriated by the Legislature for the use of the institute may be allocated pursuant to Title 35-A, section 3477, subsection 3.

Sec. 4. 5 MRSA §15322, sub-§4, ¶C is enacted to read:

C. Notwithstanding any provision of law to the contrary, funds may be allocated pursuant to Title 35-A, section 3477, subsection 3.

Sec. 5. 30-A MRSA §3013, as enacted by PL 2009, c. 273, §1, is amended to read:

§3013. Solar energy ~~devices~~ equipment; ordinances

A municipal ordinance, bylaw or regulation adopted after September 30, 2009 that directly regulates the installation or use of solar energy ~~devices~~ equipment on residential property must comply with the requirements of Title 33, chapter 28-A. For the purposes of this section, "solar energy ~~device~~ equipment" has the same meaning as in ~~Title 33, section 1421, subsection 5~~ Title 10, section 1492, subsection 1.

Sec. 6. 33 MRSA §1421, sub-§1, ¶A, as enacted by PL 2009, c. 273, §2, is amended to read:

A. Municipal ordinances, bylaws or regulations that directly regulate the installation or use of solar energy ~~devices~~ equipment on residential property;

Sec. 7. 33 MRSA §1421, sub-§5, as enacted by PL 2009, c. 273, §2, is amended to read:

5. Solar energy ~~device~~ equipment. "Solar energy ~~device~~ equipment" ~~means a solar collector or solar clothes-drying device~~ has the same meaning as in Title 10, section 1492, subsection 1.

Sec. 8. 33 MRSA §1422, as enacted by PL 2009, c. 273, §2, is amended to read:

§1422. Policy

It is the policy of the State to promote the use of solar energy and to avoid unnecessary obstacles to the use of solar energy ~~devices~~ equipment.

Sec. 9. 33 MRSA §1423, as enacted by PL 2009, c. 273, §2, is amended to read:

§1423. Use and installation of solar energy ~~devices~~ equipment

1. Application. This section applies to a legal instrument adopted or created after September 30, 2009 that defines or limits the rights or privileges of owners or renters with respect to the use of residential property.

2. Right to install and use solar energy ~~devices~~ equipment. Except as provided in subsections 3 and 4, a legal instrument subject to this section may not prohibit a person from installing or using:

A. ~~A solar~~ Solar energy ~~device~~ equipment on residential property owned by that person; or

B. A solar clothes-drying device on residential property leased or rented by that person.

3. Exception. A legal instrument subject to this section may prohibit the installation and use of solar energy ~~devices~~ equipment on residential property in common ownership with 3rd parties or common elements of a condominium.

4. Reasonable restrictions. A legal instrument subject to this section may include reasonable restrictions on the installation and use of ~~a~~ solar energy ~~device~~ equipment. For the purposes of this section, a reasonable restriction is any restriction that is necessary to protect:

A. Public health and safety, including but not limited to ensuring safe access to and rapid evacuation of buildings;

B. Buildings from damage;

C. Historic or aesthetic values, when an alternative of reasonably comparable cost and convenience is available; or

D. Shorelands under shoreland zoning provisions pursuant to Title 38, chapter 3, subchapter 1, article 2-B.

Sec. 10. 33 MRSA §1424, as enacted by PL 2009, c. 273, §2, is amended to read:

§1424. Limitation

This chapter does not supersede any existing authority of any entity to adopt and enforce any laws, rules or regulations on any matter other than the installation and use of solar energy ~~devices~~ equipment on residential property.

Sec. 11. 35-A MRSA §3471-A is enacted to read:

§3471-A. Definitions

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.

1. Solar energy equipment. "Solar energy equipment" has the same meaning as in Title 10, section 1492, subsection 1. "Solar energy equipment" includes solar panels.

Sec. 12. 35-A MRSA §3475 is enacted to read:

§3475. Prevention of solar panel deterioration; disposal; recycling; registration

In order to prevent or minimize the potential damage from deterioration of a solar panel, the following requirements must be implemented.

1. Disposal. A person may not dispose of a solar panel in whole or in part in landfills, dumps, transfer stations or in any other place. Solar panels may not be considered to be electronic waste under Title 38, section 1610.

2. Recycling. Solar energy equipment must be recycled by a solar energy equipment recycling facility approved by the Department of Environmental Protection using a solar energy equipment recycling process approved by the Department of Environmental Protection that prevents transmission into the air, soil or water of Department of Environmental Protection chemicals of high concern pursuant to Title 38, section 1693, allergens or any other irritants harmful to flora and fauna.

3. Registration. At the time of purchase of a solar panel, the seller of the solar panel shall register the solar panel with the Department of Environmental Protection. The registration must identify the solar panel's specific brand, size, model, serial number, location and any other information necessary to ensure the proper tracking and future disposal of the solar panel.

4. Purchase fee; tracking. A $25 fee per solar panel must be assessed at the time of purchase in order to ensure adequate tracking of solar panel installations and proper disposal.

5. Purchase fee; recycling. A $100 fee per solar panel must be assessed at the time of purchase in order to ensure proper and timely recycling.

6. Position funded. Fees collected pursuant to subsections 4 and 5 may be used only to fund full-time equivalent positions established solely for the purpose of tracking purchases and dispositions of solar panels in the State and the proper disposal of solar panels that are damaged, that have reached the end of their useful life or that are nonfunctional; persons filling the full-time equivalent positions may be personnel of the Department of Environmental Protection or of a solar energy equipment recycling facility approved by the Department of Environmental Protection under subsection 2.

7. Inspection. An authorized agent of the Department of Environmental Protection or of the municipality where a solar panel is installed may enter upon and inspect the functionality and wear of an installed solar panel and the quality of the surrounding environment once every 5 calendar years in order to detect and prevent the transmission into the environment of chemicals of high concern described under subsection 2.

8. Maintenance. An owner of a solar panel shall ensure the solar panel is kept in a functional and well-maintained state in order to prevent the transmission of chemicals of high concern described under subsection 2 into the air, soil, water or surrounding environment and to protect the air, soil, water or surrounding environment and inhabitants near the solar panel installation area from being adversely affected.

9. Take-back locations. An approved solar energy equipment recycling facility under subsection 2 must set up regional take-back events in locations to receive solar energy equipment for recycling.

10. Tracking information is public. Information gathered for tracking purposes pursuant to this section is a public record within the meaning of Title 1, chapter 13, subchapter 1.

Sec. 13. 35-A MRSA §3476 is enacted to read:

§3476. Insurance

All property where solar panels are installed must carry insurance that pays the full costs of recycling solar panels damaged in any form of catastrophe; insurance companies issuing insurance to cover this liability shall pay any such costs before any other distributions of proceeds of the insurance.

Sec. 14. 35-A MRSA §3477 is enacted to read:

§3477. Funding of recycling process development, equipment and facility

1. Recycling process funding. The State shall fund the development of a recycling process meeting the requirements of section 3475, subsection 2 that recycles 95% of solar panels regardless of a solar panel's manufacturer or engineering. The State may allocate up to $2,500,000 for grants, to be funded from the Regional Greenhouse Gas Initiative Trust Fund under section 10109, subsection 4, paragraph K, for this purpose.

2. Equipment and facility funding. The State shall allocate up to $2,500,000 for grants, to be funded from the Regional Greenhouse Gas Initiative Trust Fund under section 10109, subsection 4, paragraph K, to fund the design and construction of recycling equipment and an approved recycling facility under section 3475, subsection 2 to implement the recycling process under subsection 1.

3. Other sources of funding. The State may allocate funds from the Maine Solid Waste Management Fund under Title 38, section 2201, the Maine Solid Waste Diversion Grant Program under Title 38, section 2201-B and the Maine Technology Institute under Title 5, section 15312 and any other available government funding to further the purposes of subsections 1 and 2.

Sec. 15. 35-A MRSA §3478 is enacted to read:

§3478. Penalties

1. Improper disposal. A person may not dispose of solar energy equipment in a manner other than an approved recycling process under section 3475, subsection 2. A person who violates this subsection commits a civil violation for which a fine equal to the costs to recover, retrieve and recycle the solar energy equipment in an approved manner must be imposed.

2. Failure to register. A seller of a solar panel who fails to register identification information including serial numbers of any solar energy equipment pursuant to section 3475, subsection 3 commits a civil violation for which a fine of up to $250 per unit of solar energy equipment must be imposed. A fine imposed pursuant to this subsection must be recorded as an addendum to the deed of the property in the registry of deeds on which the solar energy equipment is installed.

3. Refusal to permit inspection. A person who refuses to permit inspection of any solar energy equipment pursuant to section 3475, subsection 7 commits a civil violation for which a fine of up to $250 per unit of solar energy equipment must be imposed. A fine imposed pursuant to this subsection must be recorded as an addendum to the deed of the property in the registry of deeds on which the solar energy equipment is installed.

Sec. 16. 35-A MRSA §10109, sub-§4, ¶K is enacted to read:

K. Notwithstanding any provision of law to the contrary, funds from the trust fund may be expended in accordance with section 3477, subsections 1 and 2.

Sec. 17. 38 MRSA §2201, 4th ¶ is enacted to read:

Notwithstanding any provision of law to the contrary, funds may be allocated from the fund pursuant to Title 35-A, section 3477, subsection 3.

Sec. 18. 38 MRSA §2201-B, sub-§8 is enacted to read:

8. Funding of recycling process development, equipment and facility. Notwithstanding any provision of law to the contrary, funds may be allocated pursuant to Title 35-A, section 3477, subsection 3.

SUMMARY

This bill provides for the stewardship of solar panel waste. It amends the Maine Solar Energy Act to provide for the prevention or minimization of the potential damage from solar panel deterioration and for a tracking system for solar panels. It provides that property with solar panels must be insured to pay the full costs of recycling the solar panels damaged in any form of catastrophe and that these insurance costs be paid first from any distributions of insurance proceeds. It provides for state grant funding for the development of a recycling process that recycles 95% of solar panels and the design and construction of recycling equipment and a recycling facility, using funds from the Regional Greenhouse Gas Initiative Trust Fund and, if needed, funds from the Maine Solid Waste Management Fund, the Maine Solid Waste Diversion Grant Program and the Maine Technology Institute. It provides for penalties for improper disposal of solar energy equipment, for failure to register solar energy equipment and for refusal to permit inspection of solar energy equipment. It replaces the term "solar energy device" with the term "solar energy equipment," which is defined under the Maine Revised Statutes, Title 10, section 1492, subsection 1. It corrects cross-references in the provision of law allowing the Commissioner of Administrative and Financial Services to establish an energy infrastructure benefits fund. It amends the Energy Conservation in Buildings Act provision regarding life-cycle costs to provide that Department of Administrative and Financial Services, Bureau of General Services rules include the costs of recycling in determining the effect of insulation incorporated into a facility design and the effect on solar utilization to the properties of external surfaces and the cost-effectiveness of integrating wind or solar electricity-generating equipment into the design and construction of a facility.

LR 1011 - Bill draft packet with deadline

1. Is there another jurisdiction that requires registration of individual solar panels and tracking?
   As of this moment, only three other states have moved to regulate their solar waste - New York, California and Washington, with Washington being the most aggressive. This bill is based on the Washington statutes.

   "... program management, technical review, and tracking responsibilities of the department under this section are transferred to the Washington State University extension energy program."

2. When you say the seller, are you talking about the actual manufacturer or the solar installer?
   Definition:
   - Seller - whomever the ownership of the panel(s) is transferred from;
   - Buyer - whomever the ownership of panel(s) is transferred to.

   NOTE: the manufacturer is the seller when the wholesaler is the buyer; the wholesaler is the seller when the retailer/installer is the buyer; the retailer is the seller when the consumer/installer is the buyer.

3. How would the $100/panel fee ensure the proper and timely recycling of a panel?
   The actual cost for recycling a panel is undetermined at this time and is part of the research being undertaken at this time. It could be more or it could be less. Various parties have estimated that the glass, aluminum and copper, which are easiest to recover, will cost about $12 per panel and have no significant value for resale. It is the cost of the process to recover CHC's that will be the ultimate determinant of this amount. Despite what some in the industry may say, there is no one on Earth at this time who addresses the poisons. **Choose between 95% - 100%**

4. The property owner where the solar is ~~installed~~ stored needs to have insurance to pay for recycling if a panel is damaged. This is in addition to the $125/panel in fees, right? Is this a double charge? My fault.

5. I have another funding idea for establishing a recycling facility. In your case, if it takes from RGGI, then what will we pay for weatherization with? RGGI is one of the few sources of funding for weatherization.
   I believe the RGGI funds are a one-time investment in infrastructure and research and recycling for panel sales that predate this tracking. Obviously funding from any sources will be welcome to offset these costs.

6. Pg. 4 line 9-10 "more than 95% of each solar panel" - the goal actually is **100%** and we need to decide just what to do with the rest (the CHCs).

7. I'd definitely like to see whatever facility we can lure into the state to recycle this equipment be able to recycle other equipment as well, including wind turbines and batteries. Chris Kessler
   First, we need to do this ourselves and not import a franchise to do this for us. The intent is to use the recovered materials to build our own solar panels if possible. It is hoped that this facility will become a research facility such that Maine can lead the way in recycling research & technology for other hazardous products.

   Batteries are substantially different in their recycling because they contain even riskier chemicals. As far as Wind Turbines, there is some question as to whether they can even be recycled due to size and composites. These will be considered for future research.

8. I am definitely interested in proper end of life management for solar panels, but I don't really know enough about insurance **(see #4)**, what would be proper fees **(see #3)**, what level of tracking **(see #1 and #2)** is

helpful, etc. to sign on to this right now. I'm definitely interested in the conversation when it comes to EUT. I haven't spoken with Ken about this, so sorry for any confusion! I do like recycling in general.

Solar Equipment Recycling Requirements – Prevention and Recycling – 2019 Legislative Session 129

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SUMMARY

This bill provides for significant and appropriate stewardship of solar panel waste. It provides for the development of a 95-98% recycling process and facility. It conforms the definitions of solar equipment. It provides for a tracking process to provide early detection of panel cracks, damages and leaks. And it provides for funding of this plan.

With a projected solar farm installation of 30,000 panels in Oxford and more such installations elsewhere, it is urgent that we get out ahead of a potential chemical hazard as identified in the 2019 DEP stewardship report.

We urge ~~emergency~~ adoption of this legislation.

Title 5: ADMINISTRATIVE PROCEDURES AND SERVICES
Chapter 153: PUBLIC IMPROVEMENTS
§1764. LIFE-CYCLE COSTS

3. Determination of life-cycle costs. To determine the life-cycle costs, the Bureau of General Services shall adopt rules that include but are not limited to:

C. The effect of insulation incorporated into the facility design and the effect on solar utilization to the properties of external surfaces including the cost(s) of recycling;

F. The cost-effectiveness of integrating wind or solar electricity generating equipment into the design and construction of the facility including the cost(s) of recycling.

Title 5: ADMINISTRATIVE PROCEDURES AND SERVICES
Chapter 13: DEPARTMENT OF ADMINISTRATIVE AND FINANCIAL SERVICES
Subchapter 1: GENERAL PROVISIONS
§282. Powers and duties of commissioner

9. Energy infrastructure benefits fund. To establish an energy infrastructure benefits fund. Except as otherwise provided by Title 35-A, section 122, subsections 1-C and 6-B or any other law, including the Constitution of Maine, the fund consists of any revenues derived from the use of state-owned land and assets for energy infrastructure development pursuant to Title 35-A, section 122. Each fiscal year, the Treasurer of State shall transfer revenues collected in the fund to the Efficiency Maine Trust for deposit by the Efficiency Maine Trust Board in program funds pursuant to Title 35-A, section 10103, subsection 4 and use by the trust in accordance with Title 35-A, section 10103, subsection 4-A. For the purposes of this subsection, "energy infrastructure" and "state-owned" have the same meanings as in Title 35-A, section 122, subsection 1;

NOTE: **Title 35-A, section 122 Energy infrastructure corridors has been repealed**
Title 35-A, Chapter 95 Energy Efficiency, §10103, Training for energy auditors, has been repealed

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Title 10: COMMERCE AND TRADE
Part 3: REGULATION OF TRADE
Chapter 221: WARRANTIES FOR SALE AND INSTALLATION OF SOLAR ENERGY EQUIPMENT
§1492. Definitions

As used in this chapter, unless the context indicates otherwise, the following terms shall have the following meanings.

~~1. Solar energy equipment. "Solar energy equipment" means all controls, tanks, pumps, heat exchangers, collectors and all other equipment necessary for the collection, transfer and storage of solar energy,~~

~~as determined by the Governor's Energy Office. Passive solar energy systems or those systems using natural means to collect, store and transfer solar energy may not be included under this chapter.~~

1. "Solar energy equipment" has the same meaning as the Title 35-A §3475(1) definition.

Title 30-A: MUNICIPALITIES AND COUNTIES
Part 2: MUNICIPALITIES
Subpart 4: ORDINANCE AUTHORITY AND LIMITATIONS
Chapter 141: ORDINANCES

§3013. Solar energy devices; ordinances

A municipal ordinance, bylaw or regulation adopted after September 30, 2009 that directly regulates the installation or use of solar energy devices on residential property must comply with the requirements of Title 33, chapter 28-A. For the purposes of this section, ~~"solar energy device" has the same meaning as in Title 33, section 1421, subsection 5~~. "Solar energy equipment" has the same meaning as the Title 35-A §3475(1) definition.

Title 33: PROPERTY

§1423. USE AND INSTALLATION OF SOLAR ENERGY ~~DEVICES~~ EQUIPMENT

2. Right to install and use solar energy ~~devices~~ equipment. Except as provided in subsections 3 and 4, a legal instrument subject to this section may not prohibit a person from installing or using:

A. ~~A solar~~ Solar energy ~~devices~~ equipment. on residential property owned by that person; or

3. Exception. A legal instrument subject to this section may prohibit the installation and use of solar energy ~~devices~~ equipment on residential property in common ownership with 3rd parties or common elements of a condominium.

4. Reasonable restrictions. A legal instrument subject to this section may include reasonable restrictions on the installation and use of a solar energy ~~devices~~ equipment. For the purposes of this section, a reasonable restriction is any restriction that is necessary to protect:

Title 33: PROPERTY
Chapter 28-A: SOLAR RIGHTS
§1421. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings.

5. Solar energy ~~device~~ equipment. "Solar energy ~~device~~ equipment" ~~means a solar collector or solar clothes-drying device.~~ has the same meaning as the Title 35-A §3475(1) definition.

Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§3472. Legislative findings
3. Risk to Environment

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A. The Legislature hereby recognizes the chemical hazard that solar panels present based on the 2019 Product Stewardship Report [Section 4-E] from the Maine DEP
B. The Legislature hereby acknowledges that solar panels contain the following Chemicals of Concern or Chemicals of High Concern (Maine CDC 6-27-2012 Report) - aluminum; **cadmium**; copper; gallium; silica; indium; **lead**; selenium; silicon; silver; **tellurium**; **tin**; zinc. Of these, CADMIUM is a Regulated Priority Chemical.
C. The Legislature finds that the production and/or recycling of solar panels uses chemical such as sodium hydroxide and hydrochloric acid
D. The average life span of a solar panel is estimated to be 25 to 30 years.
E. In addition, Legislature hereby acknowledges the likelihood that properties on which solar panels are installed are likely to change ownership at one or more points in their life cycle.
F. International Renewable Energy Agency (IRENA) estimated that global PV waste streams will grow from 250,000 tonnes at the end of 2016 - less than one percent of installed capacity - to more than five million tonnes by 2050. By then, the amount of PV waste will almost match the mass contained in new installations.
G. "[I]f recycling processes were not put in place, there would be 60 million tons of PV panel waste lying in landfills by the year 2050"
H. The Legislature acknowledges that since all PV cells contain certain amount of toxic substances that would truly become a not-so-sustainable way of sourcing energy."
I. The Legislature recognizes that this risk to our environment is critical and thus this legislature is an emergency and shall be implemented as soon as possible.

*Source: 2016 International Renewable Energy Agency_IEAPVPS_End-of-Life_Solar_PV_Panels.pdf

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Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§3472. Legislative findings
4. Prevention and Tracking: In order to prevent or minimize the potential damage from solar panel deterioration, the following requirements will be implemented immediately:

A. Ban disposal of solar panels in whole or in part in landfills, dumps, waste stations, transfer stations or other place. Solar panels are classified different from electronic waste.
B. Mandate that all 'solar energy equipment' be recycled by a Maine DEP approved "solar recycling facility" using an approved solar equipment recycling process that prevents transmission into the air, water or land of Maine CDC Designated Chemicals of High Concern; allergens and other irritants harmful to organic life forms.
C. At time of purchase of any solar panel, a tracking document will be completed by the seller and/or the installer identifying the specific brand(s), size, model, serial number, location and any other information needed to assure the proper tracking and future disposal of each and every solar panel.
D. In order to assure adequate tracking of solar installations to assure proper disposal, a $25 fee per standard unit will be assessed at time of purchase.
E. The fees collected for tracking are restricted to the funding of one or more FTE's solely for the purpose of tracking purchases and dispositions of solar panels in Maine and the proper disposal of panels that are damaged, that have reached end of life cycle or are otherwise no longer functional. That FTE may be an employee of the DEP or of the recycling facility.
F. To assure funds are available for proper and timely recycling, a deposit of $100 per panel for that purpose must be made at time of purchase. It is assumed that at EOL, there is a propensity to not remove the panels if a fee is assessed at time of disposal.

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G. In an effort to detect and prevent leakage of chemicals, an authorized agent of the agency or municipality may enter upon and inspect the health of the installed solar panels and surrounding environment once in any five (5) calendar year(s).
H. An owner is required to maintain solar panels in a healthy state such that hazardous materials do not leak or otherwise impact the air, soil, water, inhabitants nor environment of the installation area.
I. An approved recycling facility must deploy regional take back locations.
J. Information gathered for tracking purposes is public and not exempt from Maine's FOAA.

Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§3472. Legislative findings
5. Insurance: All property where solar panels are installed must carry **insurance that pays the full costs of recycling solar panels damaged in any form of catastrophe**; and to that extent, insurance companies are required to pay such costs before any other distributions of proceeds of the insurance.

Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§**3475 Funding of Recycling Process Development; Equipment and Facility:** Whereas no approved solar panel recycling process currently exists in Maine, and no approved recycling facilities exist, the legislature approves the following:

A. Funding to develop a recycling process that recycles 95% of the entire panel regardless of manufacturer or engineering. An allocation of up to $2,500,000 in grants from the 35-A §10109 Regional Greenhouse Gas Initiative Trust Fund is authorized for this purpose.
B. Funding to design and construct recycling equipment and a recycling facility to assure success of the process identified above. An allocation of up to $2,500,000 in grants from the 35-A §10109. Regional Greenhouse Gas Initiative Trust Fund is authorized for this purpose.
C. Similar allocations are approved from the following and other available government resources if needed to assure an approved process, facility and collection scheme.
    1. Maine Solid Waste Management Fund
    2. Maine Solid Waste Diversion Grant Program
    3. Maine Technology Institute

Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§**3499 Penalties: Failure to Comply**

A. Failure to dispose of solar equipment in a manner other than an approved recycling process will result in a fine equal to the costs to recover, retrieve and recycle said equipment in an approved manner.
B. Failure to register identification information including serial number(s) of any solar equipment will result in a fine of up to $250 per unit. Such levy will be recorded as an addendum to the deed of the property in the Registry of Deeds on which the equipment is installed.
C. Refusal to permit inspection of any solar equipment will result in a fine of up to $250 per unit. Such levy will be recorded as an addendum to the deed of the property in the Registry of Deeds on which the equipment is installed.

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Title 35-A: PUBLIC UTILITIES
Chapter 34-B: The Maine Solar Energy Act
§3475. Definitions

1. Solar energy equipment. "Solar energy equipment" means all controls, tanks, pumps, heat exchangers, collectors and all other equipment necessary for the collection, transfer and storage of solar energy, as determined by the Governor's Energy Office. **Passive solar** energy systems or those systems using natural means to collect, store and transfer solar energy may not be included under this chapter.

Title 36: TAXATION
Part 3: SALES AND USE TAX
Chapter 211: GENERAL PROVISIONS
§1752. Definitions

The following words, terms and phrases when used in chapters 211 to 225 have the meaning ascribed to them in this section, except where the context clearly indicates a different meaning:

~~**14-A. Solar energy equipment**~~. **repeal**

Title 36: TAXATION
Part 3: SALES AND USE TAX
Chapter 211: GENERAL PROVISIONS
§1760. Exemptions

Subject to the provisions of section 1760-C, no tax on sales, storage or use may be collected upon or in connection with:

~~**38. Solar energy equipment**~~. **repeal**

Lead, Cadmium and Chromium

Lead, Cadmium, Tin and Chromium – Yumm. Sounds like a terrifying cocktail of poisons that you wouldn't want in your drinking water. We're all familiar with the catastrophe in Flint, Michigan. The brown color of their drinking water raised eyebrows. When dangerous chemicals start seeping into our lives, I think of Erin Brockovich and the chemical leaks she publicized. She was a true environmental hero.

When we learn of chemical hazards, we look State and Federal agencies to address whatever is the source of the pollution. No more PG&E lawsuits. We are much more aware today. And lawmakers act quickly. Or not!

If you learned today that something entering our waste stream would be as bad as the Flint water contamination, or as carcinogenic as the PG&E hexavalent chromium, wouldn't you expect your legislators to prevent it?

So if I mentioned that Portland just added 2,816 cancerous chemistry sets to our environment, I would hope you'd be pissed. The life span of solar panels is about 30 years. You'd be uncomfortable to know that these solar panels and thousands of solar installations in Maine cannot legally be thrown into the town recycling bins.

There is currently no approved method for disposal for solar cells. Someone is going to have to develop a disposal process. Guess who is going to have to pay for the disposal. The disposal plans that have been conceptualized so far will actually cost two to three times as much as the original cost of the panels.

I decided to do something. I emailed Portland, Maine, Senator, Heather Sanborn. I asked Heather if she would submit emergency legislation that would mandate an approved disposal plan prior to any solar installation. As the saying goes, an ounce of prevention is worth a pound of cure. Ya, not for Sanborn who owns Rising Tide Beer.

Heather's response concerns me. "*Thanks for sending along the Forbes article. I read it with great interest, but I would not support emergency legislation being submitted on this topic. We have many other solid waste issues (as laid out in a recent DEP stewardship report) that we need to tackle and I do not think that*

Maine has a solar adoption rate high enough to warrant us taking a leadership role among states in this arena at this time."

My first thought "why not get the ball rolling?" So I dig up the "Maine DEP Annual Product Stewardship Report - January 2019" that Sanborn referenced. Maybe she is right. Maybe this is a non-issue. I turned to page 25."*Heavy metals in solar panels including lead, tin, and cadmium can pollute the environment and pose threats to human health when panels are not properly managed. Landfill disposal poses risks as the panels may break and leach toxics into the soil. A recent PV life cycle analysis noted that decommissioning plans for solar sites are meant to include information on safe disposal for all materials, but plans 'often don't specify what to do or how to do it.' Solar panels have an average lifetime of 25-30 years. […] early installations are now entering the waste stream in 'considerable numbers.' Research-modeling projects that solar panel waste in the US may increase to between 170,000 to 1 million metric tons cumulatively by 2030 and to between '7.5-10 million tons in 2050.' The overall proportion of waste to new installations is expected to increase over time from an estimated 4-14% in 2030 and up to more than 80% in 2050. Currently, there are approximately 4,268 solar installations powering 6,568 homes in Maine.*"

"*Given the lack of any solar panel-specific recycling program in Maine, municipalities are likely to face an increasing financial burden as solar panel waste increases.*"

Yummm! Not only will we face the inevitable environmental disaster, but we get to pay for it in our landfills and toxic waste dumps.

Although **I offered to draft the bill**, Senator Sanborn has refused to submit a bill that would shut the door on these carcinogenic waste sources. She denies it is even a problem. Remember the scene in Erin Brockovich, the movie, where Erin offers to pour the PG&E lawyer a glass of water. "We had it brought in from Hinckley especially for you." Let me make the same offer to Sanborn. I wonder how Rising Tide beer will taste – aside from that metallic after-taste.

And the Forbes article referenced can be found at
https://www.forbes.com/sites/michaelshellenberger/2018/05/23/if-solar-panels-are-so-clean-why-do-they-produce-so-much-toxic-waste/#40ef0907121c

Some of the Chemicals found in solar panels:

- Aluminum
- Boron Oxide
- Cadmium Telluride
- Copper
- Crystalline Silicon
- Gallium
- Gallium Arsenide
- Germanium
- Indium
- Kesterite
- Lead Halide
- Polyvinyl Acetate
- Pyrolitic Boron Nitride
- Ruthenium
- Selenide
- Silicon Nitride
- Silver
- Titanium Dioxide

Lanthanide - 15 metallic chemical elements with atomic numbers 57 through 71, from lanthanum through lutetium, along with the chemically similar elements scandium and yttrium, often collectively known as the rare earth elements.

CERTIFICATION OF ENROLLMENT

ENGROSSED SUBSTITUTE SENATE BILL 5939

65th Legislature
2017 3rd Special Session

Passed by the Senate July 1, 2017
Yeas 47 Nays 2

President of the Senate

Passed by the House July 1, 2017
Yeas 74 Nays 19

Speaker of the House of Representatives

Approved

Governor of the State of Washington

CERTIFICATE

I, Hunter G. Goodman, Secretary of the Senate of the State of Washington, do hereby certify that the attached is **ENGROSSED SUBSTITUTE SENATE BILL 5939** as passed by Senate and the House of Representatives on the dates hereon set forth.

Secretary

FILED

Secretary of State
State of Washington

ENGROSSED SUBSTITUTE SENATE BILL 5939

Passed Legislature - 2017 3rd Special Session

State of Washington 65th Legislature 2017 3rd Special Session

By Senate Ways & Means (originally sponsored by Senators Ericksen and Palumbo)

READ FIRST TIME 06/30/17.

AN ACT Relating to promoting a sustainable, local renewable energy industry through modifying renewable energy system tax incentives and providing guidance for renewable energy system component recycling; amending RCW 82.16.120, 82.16.130, 82.08.962, 82.08.963, 82.12.962, and 82.12.963; adding new sections to chapter 82.16 RCW; adding new sections to chapter 80.28 RCW; adding a new section to chapter 43.180 RCW; adding a new chapter to Title 70 RCW; creating a new section; and declaring an emergency.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** The legislature finds and declares that stimulating local investment in distributed renewable energy generation is an important part of a state energy strategy, helping to increase energy independence from fossil fuels, promote economic development, hedge against the effects of climate change, and attain environmental benefits. The legislature intends to increase the effectiveness of the existing renewable energy investment cost recovery program by reducing the maximum incentive rate provided for each kilowatt-hour of electricity generated by a renewable energy system over the period of the program and by creating opportunities for broader participation by low-income individuals and others who may not own the premises where a renewable energy system may be

installed. The legislature intends to provide an incentive sufficient to promote installation of systems through 2021, at which point the legislature expects that the state's renewable energy industry will be capable of sustained growth and vitality without the cost recovery incentive. The legislature intends for the program to balance the deployment of community solar and shared commercial solar projects in order to support participation in renewable energy generation, and that deployment of community solar projects is balanced among eligible utilities, nonprofits, and local housing authorities, as doing so will support maximum deployment of renewable energy generation throughout the state.

NEW SECTION. **Sec. 2.** A new section is added to chapter 82.16 RCW to read as follows:

(1) This section is the tax preference performance statement for the tax preference and incentives created under RCW 82.16.130 and section 6 of this act. This performance statement is only intended to be used for subsequent evaluation of the tax preference and incentives. It is not intended to create a private right of action by any party or be used to determine eligibility for preferential tax treatment.

(2) The legislature categorizes the tax preference created under RCW 82.16.130 and incentive payments authorized in section 6 of this act as intended to:

(a) Induce participating utilities to make incentive payments to utility customers who invest in renewable energy systems; and

(b) By inducing utilities, nonprofit organizations, and utility customers to acquire and install renewable energy systems, retain jobs in the clean energy sector and create additional jobs.

(3) The legislature's public policy objectives are to:

(a) Increase energy independence from fossil fuels; and

(b) Promote economic development through increasing and improving investment in, development of, and use of clean energy technology in Washington; and

(c) Increase the number of jobs in and enhance the sustainability of the clean energy technology industry in Washington.

(4) It is the legislature's intent to provide the incentives in section 6 of this act and RCW 82.16.130 in order to ensure the sustainable job growth and vitality of the state's renewable energy sector. The purpose of the incentive is to reduce the costs

associated with installing and operating solar energy systems by persons or entities receiving the incentive.

(5) As part of its 2021 tax preference reviews, the joint legislative audit and review committee must review the tax preferences and incentives in section 6 of this act and RCW 82.16.130. The legislature intends for the legislative auditor to determine that the incentive has achieved its desired outcomes if the following objectives are achieved:

(a) Installation of one hundred fifteen megawatts of solar photovoltaic capacity by participants in the incentive program between July 1, 2017, and June 30, 2021; and

(b) Growth of solar-related employment from 2015 levels, as evidenced by:

(i) An increased per capita rate of solar energy-related jobs in Washington, which may be determined by consulting a relevant trade association in the state; or

(ii) Achievement of an improved national ranking for solar energy-related employment and per capita solar energy-related employment, as reported in a nationally recognized report.

(6) In order to obtain the data necessary to perform the review, the joint legislative audit and review committee may refer to data collected by the Washington State University extension energy program and may obtain employment data from the employment security department.

(7) The Washington State University extension energy program must collect, through the application process, data from persons claiming the tax credit under RCW 82.16.130 and persons receiving the incentive payments created in section 6 of this act, as necessary, and may collect data from other interested persons as necessary to report on the performance of this act.

(8) All recipients of tax credits or incentive payments awarded under this chapter must provide data necessary to evaluate the tax preference performance objectives in this section as requested by the Washington State University extension energy program or the joint legislative audit and review committee. Failure to comply may result in the loss of a tax credit award or incentive payment in the following year.

Sec. 3. RCW 82.16.120 and 2011 c 179 s 3 are each amended to read as follows:

(1)(a) Any individual, business, local governmental entity, not in the light and power business or in the gas distribution business, or a participant in a community solar project may apply to the light and power business serving the situs of the system, each fiscal year beginning on July 1, 2005, and ending June 30, 2017, for an investment cost recovery incentive for each kilowatt-hour from a customer-generated electricity renewable energy system.

(b) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(i), the administrator must apply for the investment cost recovery incentive on behalf of each of the other owners.

(c) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(iii), the company owning the community solar project must apply for the investment cost recovery incentive on behalf of each member of the company.

(2)(a) Before submitting for the first time the application for the incentive allowed under subsection (4) of this section, the applicant must submit to the department of revenue and to the climate and rural energy development center at the Washington State University, established under RCW 28B.30.642, a certification in a form and manner prescribed by the department that includes, but is not limited to, the ((~~following~~)) information((:)) described in (c) of this subsection.

(b) The department may not accept certifications submitted to the department under (a) of this subsection after September 30, 2017.

(c) The certification must include:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the certification must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the certification must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) That the electricity produced by the applicant meets the definition of "customer-generated electricity" and that the renewable energy system produces electricity with:

(A) Any solar inverters and solar modules manufactured in Washington state;

(B) A wind generator powered by blades manufactured in Washington state;

(C) A solar inverter manufactured in Washington state;

(D) A solar module manufactured in Washington state;

(E) A stirling converter manufactured in Washington state; or

(F) Solar or wind equipment manufactured outside of Washington state;

(iv) That the electricity can be transformed or transmitted for entry into or operation in parallel with electricity transmission and distribution systems; and

(v) The date that the renewable energy system received its final electrical ((~~permit~~)) inspection from the applicable local jurisdiction.

((~~(b)~~)) (d) Within thirty days of receipt of the certification the department of revenue must notify the applicant by mail, or electronically as provided in RCW 82.32.135, whether the renewable energy system qualifies for an incentive under this section. The department may consult with the climate and rural energy development center to determine eligibility for the incentive. System certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(3)(a) By August 1st of each year through August 1, 2017, the application for the incentive must be made to the light and power business serving the situs of the system by certification in a form and manner prescribed by the department that includes, but is not limited to, the following information:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the application must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the application must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) The date of the notification from the department of revenue stating that the renewable energy system is eligible for the incentives under this section; and

(iv) A statement of the amount of kilowatt-hours generated by the renewable energy system in the prior fiscal year.

(b) Within sixty days of receipt of the incentive certification the light and power business serving the situs of the system must notify the applicant in writing whether the incentive payment will be authorized or denied. The business may consult with the climate and rural energy development center to determine eligibility for the incentive payment. Incentive certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(c)(i) Persons, administrators of community solar projects, and companies receiving incentive payments must keep and preserve, for a period of five years, suitable records as may be necessary to determine the amount of incentive applied for and received. Such records must be open for examination at any time upon notice by the light and power business that made the payment or by the department. If upon examination of any records or from other information obtained by the business or department it appears that an incentive has been paid in an amount that exceeds the correct amount of incentive payable, the business may assess against the person for the amount found to have been paid in excess of the correct amount of incentive payable and must add thereto interest on the amount. Interest is assessed in the manner that the department assesses interest upon delinquent tax under RCW 82.32.050.

(ii) If it appears that the amount of incentive paid is less than the correct amount of incentive payable the business may authorize additional payment.

(4) Except for community solar projects, the investment cost recovery incentive may be paid fifteen cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For community solar projects, the investment cost recovery incentive may be paid thirty cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For the purposes of this section, the rate paid for the investment cost recovery incentive may be multiplied by the following factors:

(a) For customer-generated electricity produced using solar modules manufactured in Washington state or a solar stirling converter manufactured in Washington state, two and four-tenths;

(b) For customer-generated electricity produced using a solar or a wind generator equipped with an inverter manufactured in Washington state, one and two-tenths;

(c) For customer-generated electricity produced using an anaerobic digester, or by other solar equipment or using a wind generator equipped with blades manufactured in Washington state, one; and

(d) For all other customer-generated electricity produced by wind, eight-tenths.

(5)(a) No individual, household, business, or local governmental entity is eligible for incentives provided under subsection (4) of this section for more than five thousand dollars per year.

(b) Except as provided in (c) through (e) of this subsection (5), each applicant in a community solar project is eligible for up to five thousand dollars per year.

(c) Where the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), each owner is eligible for an incentive but only in proportion to the ownership share of the project, up to five thousand dollars per year.

(d) Where the applicant is a company owning a community solar project that has applied for an investment cost recovery incentive on behalf of its members, each member of the company is eligible for an incentive that would otherwise belong to the company but only in proportion to each ownership share of the company, up to five thousand dollars per year. The company itself is not eligible for incentives under this section.

(e) In the case of a utility-owned community solar project, each ratepayer that contributes to the project is eligible for an incentive in proportion to the contribution, up to five thousand dollars per year.

(6) ((~~If requests for the investment cost recovery incentive exceed the amount of funds available for credit to the participating light and power business, the incentive payments must be reduced proportionately.~~

~~(7)~~)) The climate and rural energy development center at Washington State University energy program may establish guidelines and standards for technologies that are identified as Washington

manufactured and therefore most beneficial to the state's environment.

((~~(8)~~)) (7) The environmental attributes of the renewable energy system belong to the applicant, and do not transfer to the state or the light and power business upon receipt of the investment cost recovery incentive.

((~~(9)~~)) (8) No incentive may be paid under this section for kilowatt-hours generated before July 1, 2005, or after June 30, ((~~2020~~)) 2017, except as provided in subsections (10) through (12) of this section.

(9) Beginning October 1, 2017, program management, technical review, and tracking responsibilities of the department under this section are transferred to the Washington State University extension energy program. At the earliest date practicable and no later than September 30, 2017, the department must transfer all records necessary for the administration of the remaining incentive payments due under this section to the Washington State University extension energy program.

(10) Participants in the renewable energy investment cost recovery program under this section will continue to receive payments for electricity produced through June 30, 2020, at the same rates their utility paid to participants for electricity produced between July 1, 2015, and June 30, 2016.

(11) In order to continue to receive the incentive payment allowed under subsection (4) of this section, a person or community solar project administrator who has, by September 30, 2017, submitted a complete certification to the department under subsection (2) of this section must apply to the Washington State University extension energy program by April 30, 2018, for a certification authorizing the utility serving the situs of the renewable energy system to annually remit the incentive payment allowed under subsection (4) of this section for each kilowatt-hour generated by the renewable energy system through June 30, 2020.

(12)(a) The Washington State University extension energy program must establish an application process and form by which to collect the system operation data described in section 6(7)(a)(iii) of this act from each person or community solar project administrator applying for a certification under subsection (11) of this section. The Washington State University extension energy program must notify any applicant that providing this data is a condition of

certification and that any certification issued pursuant to this section is void as of June 30, 2018, if the applicant has failed to provide the data by that date.

(b) Beginning July 1, 2018, the Washington State University extension energy program must, in a form and manner that is consistent with the roles and processes established under section 6 (19) and (20) of this act, calculate for the year and provide to the utility the amount of the incentive payment due to each participant under subsection (11) of this section.

Sec. 4. RCW 82.16.130 and 2010 c 202 s 3 are each amended to read as follows:

(1) A light and power business ((~~shall be~~)) is allowed a credit against taxes due under this chapter in an amount equal to ((~~investment cost recovery~~)):

(a) Incentive payments made in any fiscal year under RCW 82.16.120 and section 6 of this act; and

(b) Any fees a utility is allowed to recover pursuant to section 6(5) of this act.

(2) The credits ((~~shall~~)) must be taken in a form and manner as required by the department. The credit taken under this section for the fiscal year may not exceed one and one-half percent of the businesses' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or ((~~one~~)) two hundred fifty thousand dollars, whichever is greater. ((~~Incentive payments to participants in a utility-owned community solar project as defined in RCW 82.16.110(2)(a)(ii) may only account for up to twenty-five percent of the total allowable credit. Incentive payments to participants in a company-owned community solar project as defined in RCW 82.16.110(2)(a)(iii) may only account for up to five percent of the total allowable credit.~~))

(3) The credit may not exceed the tax that would otherwise be due under this chapter. Refunds ((~~shall~~)) may not be granted in the place of credits. Expenditures not used to earn a credit in one fiscal year may not be used to earn a credit in subsequent years.

((~~(2)~~)) (4) For any business that has claimed credit for amounts that exceed the correct amount of the incentive payable under RCW 82.16.120, the amount of tax against which credit was claimed for the excess payments ((~~shall be~~)) is immediately due and payable. The

department may deduct amounts due from future credits claimed by the business.

(a) Except as provided in (b) of this subsection, the department ((~~shall~~)) must assess interest but not penalties on the taxes against which the credit was claimed. Interest ((~~shall~~)) must be assessed at the rate provided for delinquent excise taxes under chapter 82.32 RCW, retroactively to the date the credit was claimed, and ((~~shall~~)) accrues until the taxes against which the credit was claimed are repaid.

((~~(3)~~)) (b) A business is not liable for excess payments made in reliance on amounts reported by the Washington State University extension energy program as due and payable as provided under section 6(20) of this act, if such amounts are later found to be abnormal or inaccurate due to no fault of the business.

(5) The amount of credit taken under this section is not confidential taxpayer information under RCW 82.32.330 and is subject to disclosure.

(6) The right to earn tax credits ((~~under this section~~)) for incentive payments made under RCW 82.16.120 expires June 30, 2020. Credits may not be claimed after June 30, 2021.

(7) The right to earn tax credits for incentive payments made under section 6 of this act expires June 30, ((~~2020~~)) 2029. Credits may not be claimed after June 30, ((~~2021~~)) 2030.

NEW SECTION. **Sec. 5.** A new section is added to chapter 82.16 RCW to read as follows:

The definitions in this section apply throughout this section and sections 6 through 8 of this act unless the context clearly requires otherwise.

(1) "Administrator" means the utility, nonprofit, or other local housing authority that organizes and administers a community solar project as provided in sections 6 and 7 of this act.

(2) "Certification" means the authorization issued by the Washington State University extension energy program establishing a person's eligibility to receive annual incentive payments from the person's utility for the program term.

(3) "Commercial-scale system" means a renewable energy system or systems other than a community solar project or a shared commercial solar project with a combined nameplate capacity greater than twelve

kilowatts that meets the applicable system eligibility requirements established in section 6 of this act.

(4) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts and meets the applicable eligibility requirements established in sections 6 and 7 of this act.

(5) "Consumer-owned utility" has the same meaning as in RCW 19.280.020.

(6) "Customer-owner" means the owner of a residential-scale or commercial-scale renewable energy system, where such owner is not a utility and such owner is a customer of the utility and either owns the premises where the renewable energy system is installed or occupies the premises.

(7) "Electric utility" or "utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(8) "Governing body" has the same meaning as provided in RCW 19.280.020.

(9) "Person" means any individual, firm, partnership, corporation, company, association, agency, or any other legal entity.

(10) "Program term" means: (a) For community solar projects, eight years or until cumulative incentive payments for electricity produced by the project reach fifty percent of the total system price, including applicable sales tax, whichever occurs first; and (b) for other renewable energy systems, including shared commercial solar projects, eight years or until cumulative incentive payments for electricity produced by a system reach fifty percent of the total system price, including applicable sales tax, whichever occurs first.

(11) "Renewable energy system" means a solar energy system, including a community solar project, an anaerobic digester as defined in RCW 82.08.900, or a wind generator used for producing electricity.

(12) "Residential-scale system" means a renewable energy system or systems located at a single situs with combined nameplate capacity of twelve kilowatts or less that meets the applicable system eligibility requirements established in section 6 of this act.

(13) "Shared commercial solar project" means a solar energy system, owned or administered by an electric utility, with a combined nameplate capacity of greater than one megawatt and not more than five megawatts and meets the applicable eligibility requirements established in sections 6 and 8 of this act.

NEW SECTION. **Sec. 6.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Beginning July 1, 2017, the following persons may submit a one-time application to the Washington State University extension energy program to receive a certification authorizing the utility serving the situs of a renewable energy system in the state of Washington to remit an annual production incentive for each kilowatt-hour of alternating current electricity generated by the renewable energy system:

(a) The utility's customer who is the customer-owner of a residential-scale or commercial-scale renewable energy system;

(b) An administrator of a community solar project meeting the eligibility requirements outlined in section 7 of this act and applies for certification on behalf of each of the project participants; or

(c) A utility or a business under contract with a utility that administers a shared commercial solar project that meets the eligibility requirements in section 8 of this act and applies for certification on behalf of each of the project participants.

(2) No person, business, or household is eligible to receive incentive payments provided under subsection (1) of this section of more than five thousand dollars per year for residential systems or community solar projects, twenty-five thousand dollars per year for commercial-scale systems, or thirty-five thousand dollars per year for shared commercial solar projects.

(3)(a) No new certification may be issued under this section to an applicant who submits a request for or receives an annual incentive payment for a renewable energy system that was certified under RCW 82.16.120, or for a renewable energy system served by a utility that has elected not to participate in the incentive program, as provided in subsection (4) of this section.

(b) The Washington State University extension energy program may issue a new certification for an additional system installed at a situs with a previously certified system so long as the new system meets the requirements of this section and its production can be measured separately from the previously certified system.

(c) The Washington State University extension energy program may issue a recertification for a residential-scale or commercial-scale system if a customer makes investments resulting in an expansion of the system's nameplate capacity. Such recertification expires on the

same day as the original certification for the residential-scale or commercial-scale system and applies to the entire system the incentive rates and program rules in effect as of the date of the recertification.

(4) A utility's participation in the incentive program provided in this section is voluntary.

(a) A utility electing to participate in the incentive program must notify the Washington State University extension energy program of such election in writing.

(b) The utility may terminate its voluntary participation in the production incentive program by providing notice in writing to the Washington State University extension energy program to cease issuing new certifications for renewable energy systems that would be served by that utility.

(c) Such notice of termination of participation is effective after fifteen days, at which point the Washington State University extension energy program may not accept new applications for certification of renewable energy systems that would be served by that utility.

(d) Upon receiving a utility's notice of termination of participation in the incentive program, the Washington State University extension energy program must report on its web site that customers of that utility are no longer eligible to receive new certifications under the program.

(e) A utility's termination of participation does not affect the utility's obligation to continue to make annual incentive payments for electricity generated by systems that were certified prior to the effective date of the notice. The Washington State University extension energy program must continue to process and issue certifications for renewable energy systems that were received by the Washington State University extension energy program before the effective date of the notice of termination.

(f) A utility that has terminated participation in the program may resume participation upon filing notice with the Washington State University extension energy program.

(5)(a) The Washington State University extension energy program may certify a renewable energy system that is connected to equipment capable of measuring the electricity production of the system and interconnecting with the utility's system in a manner that allows the utility, or the customer at the utility's option, to measure and

report to the Washington State University extension energy program the total amount of electricity produced by the renewable energy system.

(b) The Washington State University extension energy program must establish a reporting and fee-for-service system to accept electricity production data from the utility or the customer that is not reported electronically and with the reporting entity selected at the utility's option as described in subsection (19) of this section. The fee-for-service agreement must allow for electronic reporting or reporting by mail, may be specific to individual utilities, and must recover only the program's costs of obtaining the electricity production data and incorporating it into an electronic format. A statement of the amount due for the fee-for-service must be provided to the utility by the Washington State University extension energy program with the report provided to the utility pursuant to subsection (20)(a) of this section. The utility may determine how to assess and remit the fee, and the utility may be allowed a credit for fees paid under this subsection (5) against taxes due, as provided in RCW 82.16.130(1).

(6) The Washington State University extension energy program may issue a certification authorizing annual incentive payments up to the following annual dollar limits:

(a) For community solar projects, five thousand dollars per project participant;

(b) For residential-scale systems, five thousand dollars;

(c) For commercial-scale systems, twenty-five thousand dollars; and

(d) For shared commercial solar projects, up to thirty-five thousand dollars a year per participant, as determined by the terms of subsection (15) of this section.

(7)(a) To obtain certification under this section, a person must submit to the Washington State University extension energy program an application, including:

(i) A signed statement that the applicant has not previously received a notice of eligibility from the department under RCW 82.16.120 entitling the applicant to receive annual incentive payments for electricity generated by the renewable energy system at the same meter location;

(ii) A signed statement of the total price, including applicable sales tax, paid by the applicant for the renewable energy system;

(iii) System operation data including global positioning system coordinates, tilt, estimated shading, and azimuth;

(iv) Any other information the Washington State University extension energy program deems necessary in determining eligibility and incentive levels, administering the program, tracking progress toward achieving the limits on program participation established in RCW 82.16.130, or facilitating the review of the performance of the tax preferences by the joint legislative audit and review committee, as described in section 2 of this act; and

(v)(A) Except as provided in (a)(v)(B) of this subsection (7), the date that the renewable energy system received its final electrical inspection from the applicable local jurisdiction, as well as a copy of the permit or, if the permit is available online, the permit number;

(B) The Washington State University extension energy program may waive the requirement in (a)(v)(A) of this subsection (7), accepting an application and granting provisional certification prior to proof of final electrical inspection. Provisional certification expires one hundred eighty days after issuance, unless the applicant submits proof of the final electrical inspection from the applicable local jurisdiction or the Washington State University extension energy program extends the certification, for a term or terms of thirty days, due to extenuating circumstances; and

(b)(i) Prior to obtaining certification under this subsection, a community solar project or shared commercial solar project must apply for precertification against the remaining funds available for incentive payments under subsection (13)(d) of this section in order to be guaranteed an incentive payment under this section;

(ii) A project applicant of a community solar project or shared commercial solar project must complete an application for certification with the Washington State University extension energy program within less than one year to retain the precertification status described in this subsection; and

(iii) The Washington State University extension energy program may design a reservation or precertification system for an applicant of a residential-scale or commercial-scale renewable energy system.

(8) No incentive payments may be authorized or accrued until the final electrical inspection and executed interconnection agreement are submitted to the Washington State University extension energy program.

(9) Within thirty days of receipt of the application for certification, the Washington State University extension energy program must notify the applicant and, except when a utility is the applicant, the utility serving the situs of the renewable energy system, by mail or electronically, whether certification has been granted. The certification notice must state the rate to be paid per kilowatt-hour of electricity generated by the renewable energy system, as provided in subsection (12) of this section, subject to any applicable cap on total annual payment provided in subsection (6) of this section.

(10) Certification is valid for the program term and entitles the applicant or, in the case of a community solar project or shared commercial solar project, the participant, to receive incentive payments for electricity generated from the date the renewable energy system commences operation, or the date the system is certified, whichever date is later. For purposes of this subsection, the Washington State University extension energy program must define when a renewable energy system commences operation and provide notice of such date to the recipient and the utility serving the situs of the system. Certification may not be retroactively changed except to correct later discovered errors that were made during the original application or certification process.

(11)(a) System certification follows the system if the following conditions are met using procedures established by the Washington State University extension energy program:

(i) The renewable energy system is transferred to a new owner who notifies the Washington State University extension energy program of the transfer; and

(ii) The new owner provides an executed interconnection agreement with the utility serving the premises.

(b) In the event that a community solar project participant terminates their participation in a community solar project, the system certification follows the system and participation may be transferred to a new participant. The administrator of a community solar project must provide notice to the Washington State University extension energy program of any changes or transfers in project participation.

(12) The Washington State University extension energy program must determine the total incentive rate for a new renewable energy system certification by adding to the base rate any applicable made-

in-Washington bonus rate. A made-in-Washington bonus rate is provided for a renewable energy system or a community solar project with solar modules made in Washington or with a wind turbine or tower that is made in Washington. Both the base rates and bonus rate vary, depending on the fiscal year in which the system is certified and the type of renewable energy system being certified, as provided in the following table:

Fiscal year of system certification	Base rate - residential-scale	Base rate - commercial-scale	Base rate - community solar	Base rate - shared commercial solar	Made in Washington bonus
2018	$0.16	$0.06	$0.16	$0.06	$0.05
2019	$0.14	$0.04	$0.14	$0.04	$0.04
2020	$0.12	$0.02	$0.12	$0.02	$0.03
2021	$0.10	$0.02	$0.10	$0.02	$0.02

(13) The Washington State University extension energy program must cease to issue new certifications:

(a) For community solar projects and shared commercial solar projects in any fiscal year for which the Washington State University extension energy program estimates that fifty percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to community solar projects and shared commercial solar projects combined;

(b) For commercial-scale systems in any fiscal year for which the Washington State University extension energy program estimates that twenty-five percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to commercial-scale systems;

(c) For any renewable energy system served by a utility, if certification is likely to result in incentive payments by that utility, including payments made under RCW 82.16.120, exceeding the utility's available funds for credit under RCW 82.16.130; and

(d) For any renewable energy system, if certification is likely to result in total incentive payments under this section exceeding one hundred ten million dollars.

(14) If the Washington State University extension energy program ceases issuing new certifications during a fiscal year or biennium as provided in subsection (13) of this section, in the following fiscal

year or biennium, or when additional funds are available for credit such that the thresholds described in subsection (13) of this section are no longer exceeded, the Washington State University extension energy program must resume issuing new certifications using a method of awarding certifications that results in equitable and orderly allocation of benefits to applicants.

(15) A customer who is a participant in a shared commercial solar project may not receive incentive payments associated with the project greater than the difference between the levelized cost of energy output of the system over its production life and the retail rate for the rate class to which the customer belongs. The levelized cost of the output of the energy must be determined by the utility that administers the shared commercial solar project and must be disclosed, along with an explanation of the limitations on incentive payments contained in this subsection (15), in the contractual agreement with the shared commercial solar project participants.

(16) In order to begin to receive annual incentive payments, a person who has been issued a certification for the incentive as provided in subsection (9) of this section must obtain an executed interconnection agreement with the utility serving the situs of the renewable energy system.

(17) The Washington State University extension energy program must establish a list of equipment that is eligible for the bonus rates described in subsection (12) of this section. The Washington State University extension energy program must, in consultation with the department of commerce, develop technical specifications and guidelines to ensure consistent and predictable determination of eligibility. A solar module is made in Washington for purposes of receiving the bonus rate only if the lamination of the module takes place in Washington. A wind turbine is made in Washington only if it is powered by a turbine or built with a tower manufactured in Washington.

(18) The manufacturer of a renewable energy system component subject to a bonus rate under subsection (12) of this section may apply to the Washington State University extension energy program to receive a determination of eligibility for such bonus rates. The Washington State University extension energy program must publish a list of components that have been certified as eligible for such bonus rates. The Washington State University extension energy program may assess an equipment certification fee to recover its costs. The

Washington State University extension energy program must deposit all revenue generated by this fee into the state general fund.

(19) Annually, the utility must report electronically to the Washington State University extension energy program the amount of gross kilowatt-hours generated by each renewable energy system since the prior annual report. For the purposes of this section, to report electronically means to submit statistical or factual information in alphanumeric form through a web site established by the Washington State University extension energy program or in a list, table, spreadsheet, or other nonnarrative format that can be digitally transmitted or processed. The utility may instead opt to report by mail or require program participants to report individually, but if the utility exercises one or more of these options it must negotiate with the Washington State University extension energy program the fee-for-service arrangement described in subsection (5)(b) of this section.

(20)(a) The Washington State University extension energy program must calculate for the year and provide to the utility the amount of the incentive payment due to each participant and the total amount of credit against tax due available to the utility under RCW 82.16.130 that has been allocated as annual incentive payments. Upon notice to the Washington State University extension energy program, a utility may opt to directly perform this calculation and provide its results to the Washington State University extension energy program.

(b) If the Washington State University extension energy program identifies an abnormal production claim, it must notify the utility, the department of revenue, and the applicant, and must recommend withholding payment until the applicant has demonstrated that the production claim is accurate and valid. The utility is not liable to the customer for withholding payments pursuant to such recommendation unless and until the Washington State University extension energy program notifies the utility to resume incentive payments.

(21)(a) The utility must issue the incentive payment within ninety days of receipt of the information required under subsection (20)(a) of this section from the Washington State University extension energy program. The utility must resume the incentive payments withheld under subsection (20)(b) of this section within thirty days of receiving notice from the Washington State University extension energy program that the claim has been demonstrated accurate and valid and payment should be resumed.

(b) A utility is not liable for incentive payments to a customer-owner if the utility has disconnected the customer due to a violation of a customer service agreement, such as nonpayment of the customer's bill, or a violation of an interconnection agreement.

(22) Beginning January 1, 2018, the Washington State University extension energy program must post on its web site and update at least monthly a report, by utility, of:

(a) The number of certifications issued for renewable energy systems, including estimated system sizes, costs, and annual energy production and incentive yields for various system types; and

(b) An estimate of the amount of credit that has not yet been allocated for incentive payments under each utility's credit limit and remains available for new renewable energy system certifications.

(23) Persons receiving incentive payments under this section must keep and preserve, for a period of five years for the duration of the consumer contract, suitable records as may be necessary to determine the amount of incentive payments applied for and received. The Washington State University extension energy program may direct a utility to cease issuing incentive payments if the records are not made available for examination upon request. A utility receiving such a directive is not liable to the applicant for any incentive payments or other damages for ceasing payments pursuant to the directive.

(24) The nonpower attributes of the renewable energy system belong to the utility customer who owns or hosts the system or, in the case of a community solar project or a shared commercial solar project, the participant, and can be kept, sold, or transferred at the utility customer's discretion unless, in the case of a utility-owned community solar or shared commercial solar project, a contract between the customer and the utility clearly specifies that the attributes will be retained by the utility.

(25) All lists, technical specifications, determinations, and guidelines developed under this section must be made publicly available online by the Washington State University extension energy program.

(26) No certification may be issued under this section after June 30, 2021.

(27) The Washington State University extension energy program must collect a one-time fee for applications submitted under subsection (1) of this section of one hundred twenty-five dollars per applicant. The Washington State University extension energy program

must deposit all revenue generated by this fee into the state general fund. The Washington State University extension energy program must administer and budget for the program established in RCW 82.16.120, this section, and section 7 of this act in a manner that ensures its administrative costs through June 30, 2022, are completely met by the revenues from this fee. If the Washington State University extension energy program determines that the fee authorized in this subsection is insufficient to cover the administrative costs through June 30, 2022, the Washington State University extension energy program must report to the legislature on costs incurred and fees collected and demonstrate why a different fee amount or funding mechanism should be authorized.

(28) The Washington State University extension energy program may, through a public process, develop any program requirements, policies, and processes necessary for the administration or implementation of this section, RCW 82.16.120, and sections 2 and 7 of this act. The department is authorized, in consultation with the Washington State University extension energy program, to adopt any rules necessary for administration or implementation of the program established under this section and section 7 of this act.

(29) Applications, certifications, requests for incentive payments under this section, and the information contained therein are not deemed tax information under RCW 82.32.330 and are subject to disclosure.

(30)(a) By November 1, 2019, and in compliance with RCW 43.01.036, the Washington State University extension energy program must submit a report to the legislature that includes the following:

(i) The number and types of renewable energy systems that have been certified under this section as of July 1, 2019, both statewide and per participating utility;

(ii) The number of utilities that are approaching or have reached the credit limit established under RCW 82.16.130(2) or the thresholds established under section 6(13) of this act;

(iii) The share of renewable energy systems by type that contribute to each utility's threshold under subsection (13) of this section;

(iv) An assessment of the deployment of community solar projects in the state, including but not limited to the following:

(A) An evaluation of whether or not community solar projects are being deployed in low-income and moderate-income communities, as

those terms are defined in RCW 43.63A.510, including a description of any barriers to project deployment in these communities;

(B) A description of the share of community solar projects by administrator type that contribute to each utility's threshold under subsection (13)(a) of this section; and

(C) A description of any barriers to participation by nonprofits and local housing authorities in the incentive program established under this section and under section 7 of this act;

(v) The total dollar amount of incentive payments that have been made to participants in the incentive program established under this section to date; and

(vi) The total number of megawatts of solar photovoltaic capacity installed to date by participants in the incentive program established under this section.

(b) By December 31, 2019, the legislature must review the report submitted under (a) of this subsection and determine whether the credit limit established under RCW 82.16.130(2) should be increased to two percent of a light and power business' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or two hundred fifty thousand dollars, whichever is greater, in order to achieve the legislative intent under section 1 of this act.

NEW SECTION. **Sec. 7.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of community solar programs is to facilitate broad, equitable community investment in and access to solar power. Beginning July 1, 2017, a community solar administrator may organize and administer a community solar project as provided in this section.

(2) A community solar project must have a direct current nameplate capacity that is no more than one thousand kilowatts and must have at least ten participants or one participant for every ten kilowatts of direct current nameplate capacity, whichever is greater. A community solar project that has a direct current nameplate capacity greater than five hundred kilowatts must be subject to a standard interconnection agreement with the utility serving the situs of the community solar project. Except for community solar projects authorized under subsection (9) of this section, each participant must be a customer of the utility providing service at the situs of the community solar project.

(3) The administrator of a community solar project must administer the project in a transparent manner that allows for fair and nondiscriminatory opportunity for participation by utility customers.

(4) The administrator of a community solar project may establish a reasonable fee to cover costs incurred in organizing and administering the community solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the portion of the incentive payment that will be used for this purpose.

(5) The administrator of a community solar project must maintain and update annually through June 30, 2030, the following information for each project it operates or administers:

(a) Ownership information;

(b) Contact information for technical management questions;

(c) Business address;

(d) Project design details, including project location, output capacity, equipment list, and interconnection information; and

(e) Subscription information, including rates, fees, terms, and conditions.

(6) The administrator of a community solar project must provide the information required in subsection (5) of this section to the Washington State University extension energy program at the time it submits the application allowed under section 6(1) of this act.

(7) The administrator of a community solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) Plain language disclosure of the terms under which the project participant's share of any incentive payment will be calculated by the Washington State University extension energy program over the life of the contract;

(b) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(c) All recurring and nonrecurring charges;

(d) A description of the billing and payment procedures;

(e) A description of any compensation to be paid in the event of project underperformance;

(f) Current production projections and a description of the methodology used to develop the projections;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) A utility may not adopt rates, terms, conditions, or standards that unduly or unreasonably discriminate between utility-administered community solar projects and those administered by another entity.

(9) A public utility district that is engaged in distributing electricity to more than one retail electric customer in the state and a joint operating agency organized under chapter 43.52 RCW on or before January 1, 2017, may enter into an agreement with each other to construct and own a community solar project that is located on property owned by a joint operating agency or on property that receives electric service from a participating public utility district. Each participant of a community solar project under this subsection must be a customer of at least one of the public utility districts that is a party to the agreement with a joint operating agency to construct and own a community solar project.

(10) The Washington utilities and transportation commission must publish, without disclosing proprietary information, a list of the following:

(a) Entities other than utilities, including affiliates or subsidiaries of utilities, that organize and administer community solar projects; and

(b) Community solar projects and related programs and services offered by investor-owned utilities.

(11) If a consumer-owned utility opts to provide a community solar program or contracts with a nonutility administrator to offer a community solar program, the governing body of the consumer-owned utility must publish, without disclosing proprietary information, a list of the nonutility administrators contracted by the utility as part of its community solar program.

(12) Except for parties engaged in actions and transactions regulated under laws administered by other authorities and exempted under RCW 19.86.170, a violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of

business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(13) Nothing in this section may be construed as intending to preclude persons from investing in or possessing an ownership interest in a community solar project, or from applying for and receiving federal investment tax credits.

NEW SECTION. **Sec. 8.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of a shared commercial solar project is to provide an entry point in solar utilization by large load customers in a manner that achieves economies of scale and maximizes system performance without limitations posed by on-site systems where sun exposure is not optimal or structural and other site deficiencies preclude solar development.

(2) Beginning July 1, 2017, a utility may, at its discretion, organize and administer a shared commercial solar project as provided in this section.

(3) A shared commercial solar project must have a direct current nameplate capacity greater than one megawatt and no more than five megawatts and must have at least five participants. To receive incentive payments under section 6 of this act, each participant must be a customer of the utility providing service at the situs of the shared commercial solar project and must be located in the state of Washington.

(4) The administrator of a shared commercial solar project must administer the project in a transparent manner.

(5) The administrator of a shared commercial solar project may establish a reasonable fee to cover costs incurred in organizing and administering the shared commercial solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the fees charged by the administrator as authorized under this subsection.

(6) The administrator of a shared commercial solar project must submit to the Washington State University extension energy program at the time it submits an application allowed under section 6(1) of this act project design details, including project location, output capacity, equipment list, and interconnection information.

(7) The administrator of a shared commercial solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) All recurring and nonrecurring charges;

(b) A description of the billing and payment procedures;

(c) Production projections and a description of the methodology used to develop the projections;

(d) An estimate of the project participant's share of any incentive payment over the life of the contract;

(e) A description of contract terms that relate to project underperformance;

(f) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) If a utility opts to contract with a nonutility administrator to offer a shared commercial solar program, the utility must publish, without disclosing proprietary information, the name of the nonutility administrator contracted by the utility as part of its shared commercial solar program.

(9) In order to meet the intent of this act of promoting a sustainable, local renewable energy industry, the legislature prefers award of the majority of the installation of shared commercial solar projects be given to contractors based in Washington state. In the event the majority of the installation of a shared commercial solar project is awarded to out-of-state contractors, the administrator must submit to the Washington State University extension energy program the reasons for using out-of-state contractors, the percentage of installation work performed by out-of-state contractors, and a cost comparison of the installation services performed by out-of-state contractors against the same services performed by Washington-based contractors.

NEW SECTION. **Sec. 9.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Any person who sells a solar module to a customer-owner, or who receives compensation from a customer-owner in exchange for

installing a solar module for use in a residential-scale system or commercial-scale system in Washington must provide to the customer-owner current information regarding the tax incentives available to the customer-owner under Washington law, including the scheduled expiration date of any tax incentives and the maximum period of time during which the customer-owner may benefit from any tax incentives, based on the law as it existed on the date of sale or installation of the solar module.

(2) The definitions in section 5 of this act apply to this section.

(3) For the purposes of this section, "solar module" has the same meaning as provided in RCW 82.16.110.

(4) The legislature finds that the practices covered by this section are matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW. A violation of this section is not reasonable in relation to the development and preservation of business and is an unfair or deceptive act or practice in the conduct of trade or commerce and an unfair method of competition. Violations of this section may be enforced by the attorney general under the consumer protection act, chapter 19.86 RCW.

NEW SECTION. **Sec. 10.** A new section is added to chapter 80.28 RCW to read as follows:

The definitions in this section apply throughout this section and section 11 of this act unless the context clearly requires otherwise.

(1) "Community solar company" means a person, firm, or corporation, other than an electric utility or a community solar cooperative, that owns a community solar project and provides community solar project services to project participants.

(2) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts.

(3) "Community solar project services" means the provision of electricity generated by a community solar project, or the provision of the financial benefits associated with electricity generated by a community solar project, to multiple project participants, and may include other services associated with the use of the community solar project such as system monitoring and maintenance, warranty provisions, performance guarantees, and customer service.

(4) "Electric utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(5) "Project participant" means a customer who enters into a lease, power purchase agreement, loan, or other financial agreement with a community solar company in order to obtain a beneficial interest in, other than direct ownership of, a community solar project.

(6) "Solar energy system" means any device or combination of devices or elements that rely upon direct sunlight as an energy source for use in the generation of electricity.

NEW SECTION. **Sec. 11.** A new section is added to chapter 80.28 RCW to read as follows:

(1) No community solar company may engage in business in this state except in accordance with the provisions of this chapter. Engaging in business as a community solar company includes advertising, soliciting, offering, or entering into an agreement to own a community solar project and provide community solar project services to electric utility customers.

(2) A community solar company must register with the commission before engaging in business in this state or applying for certification from the Washington State University extension energy program under section 6(1) of this act. Registration with the commission as a community solar company must occur on an annual basis. The registration must be on a form prescribed by the commission and contain that information as the commission may by rule require, but must include at a minimum:

(a) The name and address of the community solar company;

(b) The name and address of the community solar company's registered agent, if any;

(c) The name, address, and title of each officer or director;

(d) The community solar company's most current balance sheet;

(e) The community solar company's latest annual report, if any;

(f) A description of the services the community solar company offers or intends to offer, including financing models; and

(g) Disclosure of any pending litigation against it.

(3) As a precondition to registration, the commission may require the procurement of a performance bond or other mechanism sufficient to cover any advances or deposits the community solar company may

collect from project participants or order that the advances or deposits be held in escrow or trust.

(4) The commission may deny registration to any community solar company that:

(a) Does not provide the information required by this section;

(b) Fails to provide a performance bond or other mechanism, if required;

(c) Does not possess adequate financial resources to provide the proposed service; or

(d) Does not possess adequate technical competency to provide the proposed service.

(5) The commission must take action to approve or issue a notice of hearing concerning any application for registration within thirty days after receiving the application. The commission may approve an application with or without a hearing. The commission may deny an application after a hearing.

(6) The commission may charge a community solar company an annual application fee to recover the cost of processing applications for registration under this section.

(7) The commission may adopt rules that describe the manner by which it will register a community solar company, ensure that the terms and conditions of community solar projects or community solar project services comply with the requirements of this act, establish the community solar company's responsibilities for responding to customer complaints and disputes, and adopt annual reporting requirements. In addition to the application fee authorized under subsection (6) of this section, the commission may adopt regulatory fees applicable to community solar companies pursuant to RCW 80.04.080, 80.24.010, and 80.24.020. Such fees may not exceed the cost of ensuring compliance with this chapter.

(8) The commission may suspend or revoke a registration upon complaint by any interested party, or upon the commission's own motion after notice and opportunity for hearing, when it finds that a registered community solar company or its agent has violated this chapter or the rules of the commission, or that the community solar company or its agent has been found by a court or governmental agency to have violated the laws of a state or the United States.

(9) For the purpose of ensuring compliance with this chapter, the commission may issue penalties against community solar companies for

violations of this chapter as provided for public service companies pursuant to chapter 80.04 RCW.

(10) Upon request of the commission, a community solar company registered under this section must provide information about its community solar projects or community solar project services.

(11) A violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(12) For the purposes of RCW 19.86.170, actions or transactions of a community solar company may not be deemed otherwise permitted, prohibited, or regulated by the commission.

NEW SECTION. **Sec. 12.** (1) **Findings.** The legislature finds that a convenient, safe, and environmentally sound system for the recycling of photovoltaic modules, minimization of hazardous waste, and recovery of commercially valuable materials must be established. The legislature further finds that the responsibility for this system must be shared among all stakeholders, with manufacturers financing the takeback and recycling system.

(2) **Definitions.** For purposes of this section the following definitions apply:

(a) "Consumer electronic device" means any device containing an electronic circuit board that is intended for everyday use by individuals, such as a watch or calculator.

(b) "Department" means the department of ecology.

(c) "Manufacturer" means any person in business or no longer in business but having a successor in interest who, irrespective of the selling technique used, including by means of distance or remote sale:

(i) Manufactures or has manufactured a photovoltaic module under its own brand names for sale in or into this state;

(ii) Assembles or has assembled a photovoltaic module that uses parts manufactured by others for sale in or into this state under the assembler's brand names;

(iii) Resells or has resold in or into this state under its own brand names a photovoltaic module produced by other suppliers,

including retail establishments that sell photovoltaic modules under their own brand names;

(iv) Manufactures or has manufactured a cobranded photovoltaic module product for sale in or into this state that carries the name of both the manufacturer and a retailer;

(v) Imports or has imported a photovoltaic module into the United States that is sold in or into this state. However, if the imported photovoltaic module is manufactured by any person with a presence in the United States meeting the criteria of manufacturer under (a) through (d) of this subsection, that person is the manufacturer;

(vi) Sells at retail a photovoltaic module acquired from an importer that is the manufacturer and elects to register as the manufacturer for those products; or

(vii) Elects to assume the responsibility and register in lieu of a manufacturer as defined under (b)(i) through (vi) of this subsection.

(d) "Photovoltaic module" means the smallest nondivisible, environmentally protected assembly of photovoltaic cells or other photovoltaic collector technology and ancillary parts intended to generate electrical power under sunlight, except that "photovoltaic module" does not include a photovoltaic cell that is part of a consumer electronic device for which it provides electricity needed to make the consumer electronic device function. "Photovoltaic module" includes but is not limited to interconnections, terminals, and protective devices such as diodes that:

(i) Are installed on, connected to, or integral with buildings; or

(ii) Are used as components of freestanding, off-grid, power generation systems, such as for powering water pumping stations, electric vehicle charging stations, fencing, street and signage lights, and other commercial or agricultural purposes.

(e) "Rare earth element" means lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, or scandium.

(f) "Reuse" means any operation by which a photovoltaic module or a component of a photovoltaic module changes ownership and is used for the same purpose for which it was originally purchased.

(g) "Stewardship plan" means the plan developed by a manufacturer or its designated stewardship organization for a self-directed stewardship program.

(h) "Stewardship program" means the activities conducted by a manufacturer or a stewardship organization to fulfill the requirements of this chapter and implement the activities described in its stewardship plan.

(3) **Program guidance, review, and approval.** The department must develop guidance for a photovoltaic module stewardship and takeback program to guide manufacturers in preparing and implementing a self-directed program to ensure the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials. By January 1, 2018, the department must establish a process to develop guidance for photovoltaic module stewardship plans by working with manufacturers, stewardship organizations, and other stakeholders on the content, review, and approval of stewardship plans. The department's process must be fully implemented and stewardship plan guidance completed by July 1, 2019.

(4) **Stewardship organization as agent of manufacturer.** A stewardship organization may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating and implementing the stewardship program required under this chapter. Any stewardship organization that has obtained such designation must provide to the department a list of the manufacturers and brand names that the stewardship organization represents within sixty days of its designation by a manufacturer as its agent, or within sixty days of removal of such designation.

(5) **Stewardship plans.** Each manufacturer must prepare and submit a stewardship plan to the department by the later of January 1, 2020, or within thirty days of its first sale of a photovoltaic module in or into the state.

(a) A stewardship plan must, at a minimum:

(i) Describe how manufacturers will finance the takeback and recycling system, and include an adequate funding mechanism to finance the costs of collection, management, and recycling of photovoltaic modules and residuals sold in or into the state by the manufacturer with a mechanism that ensures that photovoltaic modules can be delivered to takeback locations without cost to the last owner or holder;

(ii) Accept all photovoltaic modules sold in or into the state after July 1, 2017;

(iii) Describe how the program will minimize the release of hazardous substances into the environment and maximize the recovery of other components, including rare earth elements and commercially valuable materials;

(iv) Provide for takeback of photovoltaic modules at locations that are within the region of the state in which the photovoltaic modules were used and are as convenient as reasonably practicable, and if no such location within the region of the state exists, include an explanation for the lack of such location;

(v) Identify how relevant stakeholders, including consumers, installers, building demolition firms, and recycling and treatment facilities, will receive information required in order for them to properly dismantle, transport, and treat the end-of-life photovoltaic modules in a manner consistent with the objectives described in (a)(iii) of this subsection;

(vi) Establish performance goals, including a goal for the rate of combined reuse and recycling of collected photovoltaic modules as a percentage of the total weight of photovoltaic modules collected, which rate must be no less than eighty-five percent.

(b) A manufacturer must implement the stewardship plan.

(c) A manufacturer may periodically amend its stewardship plan. The department must approve the amendment if it meets the requirements for plan approval outlined in the department's guidance. When submitting proposed amendments, the manufacturer must include an explanation of why such amendments are necessary.

(6) **Plan approval.** The department must approve a stewardship plan if it determines the plan addresses each element outlined in the department's guidance.

(7) **Annual report.** (a) Beginning April 1, 2022, and by April 1st in each subsequent year, a manufacturer, or its designated stewardship organization, must provide to the department a report for the previous calendar year that documents implementation of the plan and assesses achievement of the performance goals established in subsection (5)(a)(vi) of this section.

(b) The report may include any recommendations to the department or the legislature on modifications to the program that would enhance the effectiveness of the program, including management of program

costs and mitigation of environmental impacts of photovoltaic modules.

(c) The manufacturer or stewardship organization must post this report on a publicly accessible web site.

(8) **Enforcement.** Beginning January 1, 2021, no manufacturer may sell or offer for sale a photovoltaic module in or into the state unless the manufacturer has submitted to the department a stewardship plan and received plan approval. The department must send a written warning to a manufacturer that is not participating in a plan. The written warning must inform the manufacturer that it must submit a plan or participate in a plan within thirty days of the notice. The department may assess a penalty of up to ten thousand dollars for each sale of a photovoltaic module in or into the state that occurs after the initial written warning. A manufacturer may appeal a penalty issued under this section to the superior court of Thurston county within one hundred eighty days of receipt of the notice.

(9) **Fee.** The department may collect a flat fee from participating manufacturers to recover costs associated with the plan guidance, review, and approval process described in subsection (3) of this section. Other administrative costs incurred by the department for program implementation activities, including stewardship plan review and approval, enforcement, and any rule making, may be recovered by charging every manufacturer an annual fee calculated by dividing department administrative costs by the manufacturer's pro rata share of the Washington state photovoltaic module sales in the most recent preceding calendar year, based on best available information. The sole purpose of assessing the fees authorized in this subsection is to predictably and adequately fund the department's costs of administering the photovoltaic module recycling program.

(10) **Account.** The photovoltaic module recycling account is created in the custody of the state treasurer. All fees collected from manufacturers under this chapter must be deposited in the account. Expenditures from the account may be used only for administering this chapter. Only the director of the department or the director's designee may authorize expenditures from the account. The account is subject to the allotment procedures under chapter 43.88 RCW, but an appropriation is not required for expenditures. Funds in the account may not be diverted for any purpose or activity other than those specified in this section.

(11) **Rule making.** The department may adopt rules as necessary for the purpose of implementing, administering, and enforcing this chapter.

(12) **National program.** In lieu of preparing a stewardship plan and as provided by subsection (5) of this section, a manufacturer may participate in a national program for the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials, if substantially equivalent to the intent of the state program. The department may determine substantial equivalence if it determines that the national program adequately addresses and fulfills each of the elements of a stewardship plan outlined in subsection (5)(a) of this section and includes an enforcement mechanism reasonably calculated to ensure a manufacturer's compliance with the national program. Upon issuing a determination of substantial equivalence, the department must notify affected stakeholders including the manufacturer. If the national program is discontinued or the department determines the national program is no longer substantially equivalent to the state program in Washington, the department must notify the manufacturer and the manufacturer must provide a stewardship plan as described in subsection (5)(a) of this section to the department for approval within thirty days of notification.

NEW SECTION. **Sec. 13.** A new section is added to chapter 43.180 RCW to read as follows:

(1) It is the intent of the legislature to investigate methods by which the state may establish or facilitate financing models that allow electric utilities in the state to maximize federal tax incentives and monetize the depreciation of renewable energy systems and other distributed energy assets, with the goal of providing improved access to the benefits of these assets to low and moderate income households as well as broad system benefits to utility ratepayers and state taxpayers.

(2) By December 31, 2017, the commission must prepare and submit to the appropriate committees of the legislature a report that assesses financing tools or models for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources. The report must:

(a) Assess the legal, financial, and economic feasibility of one or more financing tools or models for the aggregation of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources;

(b) Consider the state and federal legal aspects of such a financing tool or model, including considerations of how to structure the role of the state or any subdivision of the state in a manner that is consistent with the Constitution of the state of Washington; and

(c) Describe any legislation that may be necessary to facilitate, implement, or create incentives for the private sector to implement such a financing tool or model within the state.

(3) Beginning July 1, 2018, the commission may implement a financing tool or model for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources if the commission determines that it is legally, financially, and economically feasible and that it would further the public policy goals set forth in subsection (1) of this section.

Sec. 14. RCW 82.08.962 and 2013 2nd sp.s. c 13 s 1502 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.08.963, purchasers who have paid the tax imposed by RCW 82.08.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the tax levied by RCW 82.08.020 does not apply to the sale of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor

and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The purchaser is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2) For purposes of this section and RCW 82.12.962, the following definitions apply:

(a) "Biomass energy" includes: (i) By-products of pulping and wood manufacturing process; (ii) animal waste; (iii) solid organic fuels from wood; (iv) forest or field residues; (v) wooden demolition or construction debris; (vi) food waste; (vii) liquors derived from algae and other sources; (viii) dedicated energy crops; (ix) biosolids; and (x) yard waste. "Biomass energy" does not include wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic; wood from old growth forests; or municipal solid waste.

(b) "Fuel cell" means an electrochemical reaction that generates electricity by combining atoms of hydrogen and oxygen in the presence of a catalyst.

(c) "Landfill gas" means biomass fuel, of the type qualified for federal tax credits under Title 26 U.S.C. Sec. 29 of the federal internal revenue code, collected from a "landfill" as defined under RCW 70.95.030.

(d)(i) "Machinery and equipment" means fixtures, devices, and support facilities that are integral and necessary to the generation of electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power.

(ii) "Machinery and equipment" does not include: (A) Hand-powered tools; (B) property with a useful life of less than one year; (C) repair parts required to restore machinery and equipment to normal working order; (D) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (E) buildings; or (F) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building.

(3)(a) Machinery and equipment is "used directly" in generating electricity by wind energy, solar energy, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas power if it provides any part of the process that captures the energy of the wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(b) Machinery and equipment is "used directly" in generating electricity by fuel cells if it provides any part of the process that captures the energy of the fuel, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(4)(a) A purchaser claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by RCW 82.08.020 and all applicable local sales taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The purchaser may then apply to the department for remittance in a form and manner prescribed by the department. A purchaser may not apply for a remittance under this section more frequently than once per quarter. The purchaser must specify the amount of exempted tax claimed and the qualifying purchases for which the exemption is claimed. The purchaser must retain, in adequate detail, records to enable the department to determine whether the purchaser is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the purchaser, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying purchasers who submitted applications during the previous quarter.

(5) The exemption provided by this section expires September 30, 2017, as it applies to: (a) Machinery and equipment that is used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of

electricity; or (b) sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(6) This section expires January 1, 2020.

Sec. 15. RCW 82.08.963 and 2013 2nd sp.s. c 13 s 1602 are each amended to read as follows:

(1) The tax levied by RCW 82.08.020 does not apply to sales of machinery and equipment used directly in generating electricity or producing thermal heat using solar energy, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not more than ten kilowatts of electricity or producing not more than three million British thermal units per day and provides the seller with an exemption certificate in a form and manner prescribed by the department. The seller must retain a copy of the certificate for the seller's files. For sellers who electronically file their taxes, the department must provide a separate tax reporting line for exemption amounts claimed by a buyer under this section.

(2) For purposes of this section and RCW 82.12.963:

(a) "Machinery and equipment" means industrial fixtures, devices, and support facilities that are integral and necessary to the generation of electricity or production and use of thermal heat using solar energy;

(b) "Machinery and equipment" does not include: (i) Hand-powered tools; (ii) property with a useful life of less than one year; (iii) repair parts required to restore machinery and equipment to normal working order; (iv) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (v) buildings; or (vi) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building;

(c) Machinery and equipment is "used directly" in generating electricity with solar energy if it provides any part of the process that captures the energy of the sun, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems; and

(d) Machinery and equipment is "used directly" in producing thermal heat with solar energy if it uses a solar collector or a solar hot water system that (i) meets the certification standards for solar collectors and solar hot water systems developed by the solar rating and certification corporation; or (ii) is determined by the Washington State University extension whether a solar collector or solar hot water system is an equivalent collector or system.

(3) The exemption provided by this section for the sales of machinery and equipment that is used directly in the generation of electricity using solar energy, or for sales of or charges made for labor or services rendered in respect to installing such machinery and equipment, expires September 30, 2017.

(4) This section expires June 30, 2018.

Sec. 16. RCW 82.12.962 and 2013 2nd sp.s. c 13 s 1505 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.12.963, consumers who have paid the tax imposed by RCW 82.12.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the provisions of this chapter do not apply in respect to the use of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The consumer is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2)(a) A person claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by

RCW 82.12.020 and all applicable local use taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The consumer may then apply to the department for remittance in a form and manner prescribed by the department. A consumer may not apply for a remittance under this section more frequently than once per quarter. The consumer must specify the amount of exempted tax claimed and the qualifying purchases or acquisitions for which the exemption is claimed. The consumer must retain, in adequate detail, records to enable the department to determine whether the consumer is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the consumer, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying consumers who submitted applications during the previous quarter.

(3) Purchases exempt under RCW 82.08.962 are also exempt from the tax imposed under RCW 82.12.020.

(4) The definitions in RCW 82.08.962 apply to this section.

(5) The exemption provided in subsection (1) of this section does not apply:

(a) To machinery and equipment used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of electricity, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To any other machinery and equipment described in subsection (1)(a) of this section, or to sales of or charges made for labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after December 31, 2019.

(6) This section expires January 1, 2020.

Sec. 17. RCW 82.12.963 and 2013 2nd sp.s. c 13 s 1603 are each amended to read as follows:

(1) The provisions of this chapter do not apply with respect to machinery and equipment used directly in generating not more than ten kilowatts of electricity or producing not more than three million

British thermal units per day using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment.

(2) The definitions in RCW 82.08.963 apply to this section.

(3) The exemption provided by this section does not apply:

(a) To the use of machinery and equipment used directly in the generation of electricity using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To the use of any machinery or equipment used directly in producing thermal heat using solar energy, or to the use of labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after June 30, 2018.

(4) This section expires June 30, 2018.

NEW SECTION. **Sec. 18.** Section 12 of this act constitutes a new chapter in Title 70 RCW.

NEW SECTION. **Sec. 19.** This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately.

--- END ---

CERTIFICATION OF ENROLLMENT

ENGROSSED SUBSTITUTE SENATE BILL 5939

Chapter 36, Laws of 2017

65th Legislature
2017 3rd Special Session

RENEWABLE ENERGY--TAX INCENTIVES--FEES

EFFECTIVE DATE: July 7, 2017

Passed by the Senate June 30, 2017
Yeas 47 Nays 2

CYRUS HABIB

President of the Senate

Passed by the House June 30, 2017
Yeas 74 Nays 19

FRANK CHOPP

Speaker of the House of Representatives

Approved July 7, 2017 1:50 PM

JAY INSLEE

Governor of the State of Washington

CERTIFICATE

I, Hunter G. Goodman, Secretary of the Senate of the State of Washington, do hereby certify that the attached is **ENGROSSED SUBSTITUTE SENATE BILL 5939** as passed by Senate and the House of Representatives on the dates hereon set forth.

HUNTER G. GOODMAN

Secretary

FILED

July 7, 2017

Secretary of State
State of Washington

ENGROSSED SUBSTITUTE SENATE BILL 5939

Passed Legislature - 2017 3rd Special Session

State of Washington 65th Legislature 2017 3rd Special Session

By Senate Ways & Means (originally sponsored by Senators Ericksen and Palumbo)

READ FIRST TIME 06/30/17.

AN ACT Relating to promoting a sustainable, local renewable energy industry through modifying renewable energy system tax incentives and providing guidance for renewable energy system component recycling; amending RCW 82.16.120, 82.16.130, 82.08.962, 82.08.963, 82.12.962, and 82.12.963; adding new sections to chapter 82.16 RCW; adding new sections to chapter 80.28 RCW; adding a new section to chapter 43.180 RCW; adding a new chapter to Title 70 RCW; creating a new section; and declaring an emergency.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** The legislature finds and declares that stimulating local investment in distributed renewable energy generation is an important part of a state energy strategy, helping to increase energy independence from fossil fuels, promote economic development, hedge against the effects of climate change, and attain environmental benefits. The legislature intends to increase the effectiveness of the existing renewable energy investment cost recovery program by reducing the maximum incentive rate provided for each kilowatt-hour of electricity generated by a renewable energy system over the period of the program and by creating opportunities for broader participation by low-income individuals and others who may not own the premises where a renewable energy system may be

installed. The legislature intends to provide an incentive sufficient to promote installation of systems through 2021, at which point the legislature expects that the state's renewable energy industry will be capable of sustained growth and vitality without the cost recovery incentive. The legislature intends for the program to balance the deployment of community solar and shared commercial solar projects in order to support participation in renewable energy generation, and that deployment of community solar projects is balanced among eligible utilities, nonprofits, and local housing authorities, as doing so will support maximum deployment of renewable energy generation throughout the state.

NEW SECTION. **Sec. 2.** A new section is added to chapter 82.16 RCW to read as follows:

(1) This section is the tax preference performance statement for the tax preference and incentives created under RCW 82.16.130 and section 6 of this act. This performance statement is only intended to be used for subsequent evaluation of the tax preference and incentives. It is not intended to create a private right of action by any party or be used to determine eligibility for preferential tax treatment.

(2) The legislature categorizes the tax preference created under RCW 82.16.130 and incentive payments authorized in section 6 of this act as intended to:

(a) Induce participating utilities to make incentive payments to utility customers who invest in renewable energy systems; and

(b) By inducing utilities, nonprofit organizations, and utility customers to acquire and install renewable energy systems, retain jobs in the clean energy sector and create additional jobs.

(3) The legislature's public policy objectives are to:

(a) Increase energy independence from fossil fuels; and

(b) Promote economic development through increasing and improving investment in, development of, and use of clean energy technology in Washington; and

(c) Increase the number of jobs in and enhance the sustainability of the clean energy technology industry in Washington.

(4) It is the legislature's intent to provide the incentives in section 6 of this act and RCW 82.16.130 in order to ensure the sustainable job growth and vitality of the state's renewable energy sector. The purpose of the incentive is to reduce the costs

associated with installing and operating solar energy systems by persons or entities receiving the incentive.

(5) As part of its 2021 tax preference reviews, the joint legislative audit and review committee must review the tax preferences and incentives in section 6 of this act and RCW 82.16.130. The legislature intends for the legislative auditor to determine that the incentive has achieved its desired outcomes if the following objectives are achieved:

(a) Installation of one hundred fifteen megawatts of solar photovoltaic capacity by participants in the incentive program between July 1, 2017, and June 30, 2021; and

(b) Growth of solar-related employment from 2015 levels, as evidenced by:

(i) An increased per capita rate of solar energy-related jobs in Washington, which may be determined by consulting a relevant trade association in the state; or

(ii) Achievement of an improved national ranking for solar energy-related employment and per capita solar energy-related employment, as reported in a nationally recognized report.

(6) In order to obtain the data necessary to perform the review, the joint legislative audit and review committee may refer to data collected by the Washington State University extension energy program and may obtain employment data from the employment security department.

(7) The Washington State University extension energy program must collect, through the application process, data from persons claiming the tax credit under RCW 82.16.130 and persons receiving the incentive payments created in section 6 of this act, as necessary, and may collect data from other interested persons as necessary to report on the performance of this act.

(8) All recipients of tax credits or incentive payments awarded under this chapter must provide data necessary to evaluate the tax preference performance objectives in this section as requested by the Washington State University extension energy program or the joint legislative audit and review committee. Failure to comply may result in the loss of a tax credit award or incentive payment in the following year.

Sec. 3. RCW 82.16.120 and 2011 c 179 s 3 are each amended to read as follows:

(1)(a) Any individual, business, local governmental entity, not in the light and power business or in the gas distribution business, or a participant in a community solar project may apply to the light and power business serving the situs of the system, each fiscal year beginning on July 1, 2005, and ending June 30, 2017, for an investment cost recovery incentive for each kilowatt-hour from a customer-generated electricity renewable energy system.

(b) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(i), the administrator must apply for the investment cost recovery incentive on behalf of each of the other owners.

(c) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(iii), the company owning the community solar project must apply for the investment cost recovery incentive on behalf of each member of the company.

(2)(a) Before submitting for the first time the application for the incentive allowed under subsection (4) of this section, the applicant must submit to the department of revenue and to the climate and rural energy development center at the Washington State University, established under RCW 28B.30.642, a certification in a form and manner prescribed by the department that includes, but is not limited to, the ((~~following~~)) information((:)) described in (c) of this subsection.

(b) The department may not accept certifications submitted to the department under (a) of this subsection after September 30, 2017.

(c) The certification must include:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the certification must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the certification must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) That the electricity produced by the applicant meets the definition of "customer-generated electricity" and that the renewable energy system produces electricity with:

(A) Any solar inverters and solar modules manufactured in Washington state;

(B) A wind generator powered by blades manufactured in Washington state;

(C) A solar inverter manufactured in Washington state;

(D) A solar module manufactured in Washington state;

(E) A stirling converter manufactured in Washington state; or

(F) Solar or wind equipment manufactured outside of Washington state;

(iv) That the electricity can be transformed or transmitted for entry into or operation in parallel with electricity transmission and distribution systems; and

(v) The date that the renewable energy system received its final electrical ((~~permit~~)) inspection from the applicable local jurisdiction.

((~~(b)~~)) (d) Within thirty days of receipt of the certification the department of revenue must notify the applicant by mail, or electronically as provided in RCW 82.32.135, whether the renewable energy system qualifies for an incentive under this section. The department may consult with the climate and rural energy development center to determine eligibility for the incentive. System certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(3)(a) By August 1st of each year through August 1, 2017, the application for the incentive must be made to the light and power business serving the situs of the system by certification in a form and manner prescribed by the department that includes, but is not limited to, the following information:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the application must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the application must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) The date of the notification from the department of revenue stating that the renewable energy system is eligible for the incentives under this section; and

(iv) A statement of the amount of kilowatt-hours generated by the renewable energy system in the prior fiscal year.

(b) Within sixty days of receipt of the incentive certification the light and power business serving the situs of the system must notify the applicant in writing whether the incentive payment will be authorized or denied. The business may consult with the climate and rural energy development center to determine eligibility for the incentive payment. Incentive certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(c)(i) Persons, administrators of community solar projects, and companies receiving incentive payments must keep and preserve, for a period of five years, suitable records as may be necessary to determine the amount of incentive applied for and received. Such records must be open for examination at any time upon notice by the light and power business that made the payment or by the department. If upon examination of any records or from other information obtained by the business or department it appears that an incentive has been paid in an amount that exceeds the correct amount of incentive payable, the business may assess against the person for the amount found to have been paid in excess of the correct amount of incentive payable and must add thereto interest on the amount. Interest is assessed in the manner that the department assesses interest upon delinquent tax under RCW 82.32.050.

(ii) If it appears that the amount of incentive paid is less than the correct amount of incentive payable the business may authorize additional payment.

(4) Except for community solar projects, the investment cost recovery incentive may be paid fifteen cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For community solar projects, the investment cost recovery incentive may be paid thirty cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For the purposes of this section, the rate paid for the investment cost recovery incentive may be multiplied by the following factors:

(a) For customer-generated electricity produced using solar modules manufactured in Washington state or a solar stirling converter manufactured in Washington state, two and four-tenths;

(b) For customer-generated electricity produced using a solar or a wind generator equipped with an inverter manufactured in Washington state, one and two-tenths;

(c) For customer-generated electricity produced using an anaerobic digester, or by other solar equipment or using a wind generator equipped with blades manufactured in Washington state, one; and

(d) For all other customer-generated electricity produced by wind, eight-tenths.

(5)(a) No individual, household, business, or local governmental entity is eligible for incentives provided under subsection (4) of this section for more than five thousand dollars per year.

(b) Except as provided in (c) through (e) of this subsection (5), each applicant in a community solar project is eligible for up to five thousand dollars per year.

(c) Where the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), each owner is eligible for an incentive but only in proportion to the ownership share of the project, up to five thousand dollars per year.

(d) Where the applicant is a company owning a community solar project that has applied for an investment cost recovery incentive on behalf of its members, each member of the company is eligible for an incentive that would otherwise belong to the company but only in proportion to each ownership share of the company, up to five thousand dollars per year. The company itself is not eligible for incentives under this section.

(e) In the case of a utility-owned community solar project, each ratepayer that contributes to the project is eligible for an incentive in proportion to the contribution, up to five thousand dollars per year.

(6) ((~~If requests for the investment cost recovery incentive exceed the amount of funds available for credit to the participating light and power business, the incentive payments must be reduced proportionately.~~

~~(7)~~)) The climate and rural energy development center at Washington State University energy program may establish guidelines and standards for technologies that are identified as Washington

manufactured and therefore most beneficial to the state's environment.

((~~(8)~~)) (7) The environmental attributes of the renewable energy system belong to the applicant, and do not transfer to the state or the light and power business upon receipt of the investment cost recovery incentive.

((~~(9)~~)) (8) No incentive may be paid under this section for kilowatt-hours generated before July 1, 2005, or after June 30, ((~~2020~~)) 2017, except as provided in subsections (10) through (12) of this section.

(9) Beginning October 1, 2017, program management, technical review, and tracking responsibilities of the department under this section are transferred to the Washington State University extension energy program. At the earliest date practicable and no later than September 30, 2017, the department must transfer all records necessary for the administration of the remaining incentive payments due under this section to the Washington State University extension energy program.

(10) Participants in the renewable energy investment cost recovery program under this section will continue to receive payments for electricity produced through June 30, 2020, at the same rates their utility paid to participants for electricity produced between July 1, 2015, and June 30, 2016.

(11) In order to continue to receive the incentive payment allowed under subsection (4) of this section, a person or community solar project administrator who has, by September 30, 2017, submitted a complete certification to the department under subsection (2) of this section must apply to the Washington State University extension energy program by April 30, 2018, for a certification authorizing the utility serving the situs of the renewable energy system to annually remit the incentive payment allowed under subsection (4) of this section for each kilowatt-hour generated by the renewable energy system through June 30, 2020.

(12)(a) The Washington State University extension energy program must establish an application process and form by which to collect the system operation data described in section 6(7)(a)(iii) of this act from each person or community solar project administrator applying for a certification under subsection (11) of this section. The Washington State University extension energy program must notify any applicant that providing this data is a condition of

certification and that any certification issued pursuant to this section is void as of June 30, 2018, if the applicant has failed to provide the data by that date.

(b) Beginning July 1, 2018, the Washington State University extension energy program must, in a form and manner that is consistent with the roles and processes established under section 6 (19) and (20) of this act, calculate for the year and provide to the utility the amount of the incentive payment due to each participant under subsection (11) of this section.

Sec. 4. RCW 82.16.130 and 2010 c 202 s 3 are each amended to read as follows:

(1) A light and power business ((~~shall be~~)) is allowed a credit against taxes due under this chapter in an amount equal to ((~~investment cost recovery~~)):

(a) Incentive payments made in any fiscal year under RCW 82.16.120 and section 6 of this act; and

(b) Any fees a utility is allowed to recover pursuant to section 6(5) of this act.

(2) The credits ((~~shall~~)) must be taken in a form and manner as required by the department. The credit taken under this section for the fiscal year may not exceed one and one-half percent of the businesses' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or ((~~one~~)) two hundred fifty thousand dollars, whichever is greater. ((~~Incentive payments to participants in a utility-owned community solar project as defined in RCW 82.16.110(2)(a)(ii) may only account for up to twenty-five percent of the total allowable credit. Incentive payments to participants in a company-owned community solar project as defined in RCW 82.16.110(2)(a)(iii) may only account for up to five percent of the total allowable credit.~~))

(3) The credit may not exceed the tax that would otherwise be due under this chapter. Refunds ((~~shall~~)) may not be granted in the place of credits. Expenditures not used to earn a credit in one fiscal year may not be used to earn a credit in subsequent years.

((~~(2)~~)) (4) For any business that has claimed credit for amounts that exceed the correct amount of the incentive payable under RCW 82.16.120, the amount of tax against which credit was claimed for the excess payments ((~~shall be~~)) is immediately due and payable. The

department may deduct amounts due from future credits claimed by the business.

(a) Except as provided in (b) of this subsection, the department ((~~shall~~)) must assess interest but not penalties on the taxes against which the credit was claimed. Interest ((~~shall~~)) must be assessed at the rate provided for delinquent excise taxes under chapter 82.32 RCW, retroactively to the date the credit was claimed, and ((~~shall~~)) accrues until the taxes against which the credit was claimed are repaid.

((~~(3)~~)) (b) A business is not liable for excess payments made in reliance on amounts reported by the Washington State University extension energy program as due and payable as provided under section 6(20) of this act, if such amounts are later found to be abnormal or inaccurate due to no fault of the business.

(5) The amount of credit taken under this section is not confidential taxpayer information under RCW 82.32.330 and is subject to disclosure.

(6) The right to earn tax credits ((~~under this section~~)) for incentive payments made under RCW 82.16.120 expires June 30, 2020. Credits may not be claimed after June 30, 2021.

(7) The right to earn tax credits for incentive payments made under section 6 of this act expires June 30, ((~~2020~~)) 2029. Credits may not be claimed after June 30, ((~~2021~~)) 2030.

NEW SECTION. **Sec. 5.** A new section is added to chapter 82.16 RCW to read as follows:

The definitions in this section apply throughout this section and sections 6 through 8 of this act unless the context clearly requires otherwise.

(1) "Administrator" means the utility, nonprofit, or other local housing authority that organizes and administers a community solar project as provided in sections 6 and 7 of this act.

(2) "Certification" means the authorization issued by the Washington State University extension energy program establishing a person's eligibility to receive annual incentive payments from the person's utility for the program term.

(3) "Commercial-scale system" means a renewable energy system or systems other than a community solar project or a shared commercial solar project with a combined nameplate capacity greater than twelve

kilowatts that meets the applicable system eligibility requirements established in section 6 of this act.

(4) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts and meets the applicable eligibility requirements established in sections 6 and 7 of this act.

(5) "Consumer-owned utility" has the same meaning as in RCW 19.280.020.

(6) "Customer-owner" means the owner of a residential-scale or commercial-scale renewable energy system, where such owner is not a utility and such owner is a customer of the utility and either owns the premises where the renewable energy system is installed or occupies the premises.

(7) "Electric utility" or "utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(8) "Governing body" has the same meaning as provided in RCW 19.280.020.

(9) "Person" means any individual, firm, partnership, corporation, company, association, agency, or any other legal entity.

(10) "Program term" means: (a) For community solar projects, eight years or until cumulative incentive payments for electricity produced by the project reach fifty percent of the total system price, including applicable sales tax, whichever occurs first; and (b) for other renewable energy systems, including shared commercial solar projects, eight years or until cumulative incentive payments for electricity produced by a system reach fifty percent of the total system price, including applicable sales tax, whichever occurs first.

(11) "Renewable energy system" means a solar energy system, including a community solar project, an anaerobic digester as defined in RCW 82.08.900, or a wind generator used for producing electricity.

(12) "Residential-scale system" means a renewable energy system or systems located at a single situs with combined nameplate capacity of twelve kilowatts or less that meets the applicable system eligibility requirements established in section 6 of this act.

(13) "Shared commercial solar project" means a solar energy system, owned or administered by an electric utility, with a combined nameplate capacity of greater than one megawatt and not more than five megawatts and meets the applicable eligibility requirements established in sections 6 and 8 of this act.

NEW SECTION. **Sec. 6.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Beginning July 1, 2017, the following persons may submit a one-time application to the Washington State University extension energy program to receive a certification authorizing the utility serving the situs of a renewable energy system in the state of Washington to remit an annual production incentive for each kilowatt-hour of alternating current electricity generated by the renewable energy system:

(a) The utility's customer who is the customer-owner of a residential-scale or commercial-scale renewable energy system;

(b) An administrator of a community solar project meeting the eligibility requirements outlined in section 7 of this act and applies for certification on behalf of each of the project participants; or

(c) A utility or a business under contract with a utility that administers a shared commercial solar project that meets the eligibility requirements in section 8 of this act and applies for certification on behalf of each of the project participants.

(2) No person, business, or household is eligible to receive incentive payments provided under subsection (1) of this section of more than five thousand dollars per year for residential systems or community solar projects, twenty-five thousand dollars per year for commercial-scale systems, or thirty-five thousand dollars per year for shared commercial solar projects.

(3)(a) No new certification may be issued under this section to an applicant who submits a request for or receives an annual incentive payment for a renewable energy system that was certified under RCW 82.16.120, or for a renewable energy system served by a utility that has elected not to participate in the incentive program, as provided in subsection (4) of this section.

(b) The Washington State University extension energy program may issue a new certification for an additional system installed at a situs with a previously certified system so long as the new system meets the requirements of this section and its production can be measured separately from the previously certified system.

(c) The Washington State University extension energy program may issue a recertification for a residential-scale or commercial-scale system if a customer makes investments resulting in an expansion of the system's nameplate capacity. Such recertification expires on the

same day as the original certification for the residential-scale or commercial-scale system and applies to the entire system the incentive rates and program rules in effect as of the date of the recertification.

(4) A utility's participation in the incentive program provided in this section is voluntary.

(a) A utility electing to participate in the incentive program must notify the Washington State University extension energy program of such election in writing.

(b) The utility may terminate its voluntary participation in the production incentive program by providing notice in writing to the Washington State University extension energy program to cease issuing new certifications for renewable energy systems that would be served by that utility.

(c) Such notice of termination of participation is effective after fifteen days, at which point the Washington State University extension energy program may not accept new applications for certification of renewable energy systems that would be served by that utility.

(d) Upon receiving a utility's notice of termination of participation in the incentive program, the Washington State University extension energy program must report on its web site that customers of that utility are no longer eligible to receive new certifications under the program.

(e) A utility's termination of participation does not affect the utility's obligation to continue to make annual incentive payments for electricity generated by systems that were certified prior to the effective date of the notice. The Washington State University extension energy program must continue to process and issue certifications for renewable energy systems that were received by the Washington State University extension energy program before the effective date of the notice of termination.

(f) A utility that has terminated participation in the program may resume participation upon filing notice with the Washington State University extension energy program.

(5)(a) The Washington State University extension energy program may certify a renewable energy system that is connected to equipment capable of measuring the electricity production of the system and interconnecting with the utility's system in a manner that allows the utility, or the customer at the utility's option, to measure and

report to the Washington State University extension energy program the total amount of electricity produced by the renewable energy system.

(b) The Washington State University extension energy program must establish a reporting and fee-for-service system to accept electricity production data from the utility or the customer that is not reported electronically and with the reporting entity selected at the utility's option as described in subsection (19) of this section. The fee-for-service agreement must allow for electronic reporting or reporting by mail, may be specific to individual utilities, and must recover only the program's costs of obtaining the electricity production data and incorporating it into an electronic format. A statement of the amount due for the fee-for-service must be provided to the utility by the Washington State University extension energy program with the report provided to the utility pursuant to subsection (20)(a) of this section. The utility may determine how to assess and remit the fee, and the utility may be allowed a credit for fees paid under this subsection (5) against taxes due, as provided in RCW 82.16.130(1).

(6) The Washington State University extension energy program may issue a certification authorizing annual incentive payments up to the following annual dollar limits:

(a) For community solar projects, five thousand dollars per project participant;

(b) For residential-scale systems, five thousand dollars;

(c) For commercial-scale systems, twenty-five thousand dollars; and

(d) For shared commercial solar projects, up to thirty-five thousand dollars a year per participant, as determined by the terms of subsection (15) of this section.

(7)(a) To obtain certification under this section, a person must submit to the Washington State University extension energy program an application, including:

(i) A signed statement that the applicant has not previously received a notice of eligibility from the department under RCW 82.16.120 entitling the applicant to receive annual incentive payments for electricity generated by the renewable energy system at the same meter location;

(ii) A signed statement of the total price, including applicable sales tax, paid by the applicant for the renewable energy system;

(iii) System operation data including global positioning system coordinates, tilt, estimated shading, and azimuth;

(iv) Any other information the Washington State University extension energy program deems necessary in determining eligibility and incentive levels, administering the program, tracking progress toward achieving the limits on program participation established in RCW 82.16.130, or facilitating the review of the performance of the tax preferences by the joint legislative audit and review committee, as described in section 2 of this act; and

(v)(A) Except as provided in (a)(v)(B) of this subsection (7), the date that the renewable energy system received its final electrical inspection from the applicable local jurisdiction, as well as a copy of the permit or, if the permit is available online, the permit number;

(B) The Washington State University extension energy program may waive the requirement in (a)(v)(A) of this subsection (7), accepting an application and granting provisional certification prior to proof of final electrical inspection. Provisional certification expires one hundred eighty days after issuance, unless the applicant submits proof of the final electrical inspection from the applicable local jurisdiction or the Washington State University extension energy program extends the certification, for a term or terms of thirty days, due to extenuating circumstances; and

(b)(i) Prior to obtaining certification under this subsection, a community solar project or shared commercial solar project must apply for precertification against the remaining funds available for incentive payments under subsection (13)(d) of this section in order to be guaranteed an incentive payment under this section;

(ii) A project applicant of a community solar project or shared commercial solar project must complete an application for certification with the Washington State University extension energy program within less than one year to retain the precertification status described in this subsection; and

(iii) The Washington State University extension energy program may design a reservation or precertification system for an applicant of a residential-scale or commercial-scale renewable energy system.

(8) No incentive payments may be authorized or accrued until the final electrical inspection and executed interconnection agreement are submitted to the Washington State University extension energy program.

(9) Within thirty days of receipt of the application for certification, the Washington State University extension energy program must notify the applicant and, except when a utility is the applicant, the utility serving the situs of the renewable energy system, by mail or electronically, whether certification has been granted. The certification notice must state the rate to be paid per kilowatt-hour of electricity generated by the renewable energy system, as provided in subsection (12) of this section, subject to any applicable cap on total annual payment provided in subsection (6) of this section.

(10) Certification is valid for the program term and entitles the applicant or, in the case of a community solar project or shared commercial solar project, the participant, to receive incentive payments for electricity generated from the date the renewable energy system commences operation, or the date the system is certified, whichever date is later. For purposes of this subsection, the Washington State University extension energy program must define when a renewable energy system commences operation and provide notice of such date to the recipient and the utility serving the situs of the system. Certification may not be retroactively changed except to correct later discovered errors that were made during the original application or certification process.

(11)(a) System certification follows the system if the following conditions are met using procedures established by the Washington State University extension energy program:

(i) The renewable energy system is transferred to a new owner who notifies the Washington State University extension energy program of the transfer; and

(ii) The new owner provides an executed interconnection agreement with the utility serving the premises.

(b) In the event that a community solar project participant terminates their participation in a community solar project, the system certification follows the system and participation may be transferred to a new participant. The administrator of a community solar project must provide notice to the Washington State University extension energy program of any changes or transfers in project participation.

(12) The Washington State University extension energy program must determine the total incentive rate for a new renewable energy system certification by adding to the base rate any applicable made-

in-Washington bonus rate. A made-in-Washington bonus rate is provided for a renewable energy system or a community solar project with solar modules made in Washington or with a wind turbine or tower that is made in Washington. Both the base rates and bonus rate vary, depending on the fiscal year in which the system is certified and the type of renewable energy system being certified, as provided in the following table:

Fiscal year of system certification	Base rate - residential-scale	Base rate - commercial-scale	Base rate - community solar	Base rate - shared commercial solar	Made in Washington bonus
2018	$0.16	$0.06	$0.16	$0.06	$0.05
2019	$0.14	$0.04	$0.14	$0.04	$0.04
2020	$0.12	$0.02	$0.12	$0.02	$0.03
2021	$0.10	$0.02	$0.10	$0.02	$0.02

(13) The Washington State University extension energy program must cease to issue new certifications:

(a) For community solar projects and shared commercial solar projects in any fiscal year for which the Washington State University extension energy program estimates that fifty percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to community solar projects and shared commercial solar projects combined;

(b) For commercial-scale systems in any fiscal year for which the Washington State University extension energy program estimates that twenty-five percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to commercial-scale systems;

(c) For any renewable energy system served by a utility, if certification is likely to result in incentive payments by that utility, including payments made under RCW 82.16.120, exceeding the utility's available funds for credit under RCW 82.16.130; and

(d) For any renewable energy system, if certification is likely to result in total incentive payments under this section exceeding one hundred ten million dollars.

(14) If the Washington State University extension energy program ceases issuing new certifications during a fiscal year or biennium as provided in subsection (13) of this section, in the following fiscal

year or biennium, or when additional funds are available for credit such that the thresholds described in subsection (13) of this section are no longer exceeded, the Washington State University extension energy program must resume issuing new certifications using a method of awarding certifications that results in equitable and orderly allocation of benefits to applicants.

(15) A customer who is a participant in a shared commercial solar project may not receive incentive payments associated with the project greater than the difference between the levelized cost of energy output of the system over its production life and the retail rate for the rate class to which the customer belongs. The levelized cost of the output of the energy must be determined by the utility that administers the shared commercial solar project and must be disclosed, along with an explanation of the limitations on incentive payments contained in this subsection (15), in the contractual agreement with the shared commercial solar project participants.

(16) In order to begin to receive annual incentive payments, a person who has been issued a certification for the incentive as provided in subsection (9) of this section must obtain an executed interconnection agreement with the utility serving the situs of the renewable energy system.

(17) The Washington State University extension energy program must establish a list of equipment that is eligible for the bonus rates described in subsection (12) of this section. The Washington State University extension energy program must, in consultation with the department of commerce, develop technical specifications and guidelines to ensure consistent and predictable determination of eligibility. A solar module is made in Washington for purposes of receiving the bonus rate only if the lamination of the module takes place in Washington. A wind turbine is made in Washington only if it is powered by a turbine or built with a tower manufactured in Washington.

(18) The manufacturer of a renewable energy system component subject to a bonus rate under subsection (12) of this section may apply to the Washington State University extension energy program to receive a determination of eligibility for such bonus rates. The Washington State University extension energy program must publish a list of components that have been certified as eligible for such bonus rates. The Washington State University extension energy program may assess an equipment certification fee to recover its costs. The

Washington State University extension energy program must deposit all revenue generated by this fee into the state general fund.

(19) Annually, the utility must report electronically to the Washington State University extension energy program the amount of gross kilowatt-hours generated by each renewable energy system since the prior annual report. For the purposes of this section, to report electronically means to submit statistical or factual information in alphanumeric form through a web site established by the Washington State University extension energy program or in a list, table, spreadsheet, or other nonnarrative format that can be digitally transmitted or processed. The utility may instead opt to report by mail or require program participants to report individually, but if the utility exercises one or more of these options it must negotiate with the Washington State University extension energy program the fee-for-service arrangement described in subsection (5)(b) of this section.

(20)(a) The Washington State University extension energy program must calculate for the year and provide to the utility the amount of the incentive payment due to each participant and the total amount of credit against tax due available to the utility under RCW 82.16.130 that has been allocated as annual incentive payments. Upon notice to the Washington State University extension energy program, a utility may opt to directly perform this calculation and provide its results to the Washington State University extension energy program.

(b) If the Washington State University extension energy program identifies an abnormal production claim, it must notify the utility, the department of revenue, and the applicant, and must recommend withholding payment until the applicant has demonstrated that the production claim is accurate and valid. The utility is not liable to the customer for withholding payments pursuant to such recommendation unless and until the Washington State University extension energy program notifies the utility to resume incentive payments.

(21)(a) The utility must issue the incentive payment within ninety days of receipt of the information required under subsection (20)(a) of this section from the Washington State University extension energy program. The utility must resume the incentive payments withheld under subsection (20)(b) of this section within thirty days of receiving notice from the Washington State University extension energy program that the claim has been demonstrated accurate and valid and payment should be resumed.

(b) A utility is not liable for incentive payments to a customer-owner if the utility has disconnected the customer due to a violation of a customer service agreement, such as nonpayment of the customer's bill, or a violation of an interconnection agreement.

(22) Beginning January 1, 2018, the Washington State University extension energy program must post on its web site and update at least monthly a report, by utility, of:

(a) The number of certifications issued for renewable energy systems, including estimated system sizes, costs, and annual energy production and incentive yields for various system types; and

(b) An estimate of the amount of credit that has not yet been allocated for incentive payments under each utility's credit limit and remains available for new renewable energy system certifications.

(23) Persons receiving incentive payments under this section must keep and preserve, for a period of five years for the duration of the consumer contract, suitable records as may be necessary to determine the amount of incentive payments applied for and received. The Washington State University extension energy program may direct a utility to cease issuing incentive payments if the records are not made available for examination upon request. A utility receiving such a directive is not liable to the applicant for any incentive payments or other damages for ceasing payments pursuant to the directive.

(24) The nonpower attributes of the renewable energy system belong to the utility customer who owns or hosts the system or, in the case of a community solar project or a shared commercial solar project, the participant, and can be kept, sold, or transferred at the utility customer's discretion unless, in the case of a utility-owned community solar or shared commercial solar project, a contract between the customer and the utility clearly specifies that the attributes will be retained by the utility.

(25) All lists, technical specifications, determinations, and guidelines developed under this section must be made publicly available online by the Washington State University extension energy program.

(26) No certification may be issued under this section after June 30, 2021.

(27) The Washington State University extension energy program must collect a one-time fee for applications submitted under subsection (1) of this section of one hundred twenty-five dollars per applicant. The Washington State University extension energy program

must deposit all revenue generated by this fee into the state general fund. The Washington State University extension energy program must administer and budget for the program established in RCW 82.16.120, this section, and section 7 of this act in a manner that ensures its administrative costs through June 30, 2022, are completely met by the revenues from this fee. If the Washington State University extension energy program determines that the fee authorized in this subsection is insufficient to cover the administrative costs through June 30, 2022, the Washington State University extension energy program must report to the legislature on costs incurred and fees collected and demonstrate why a different fee amount or funding mechanism should be authorized.

(28) The Washington State University extension energy program may, through a public process, develop any program requirements, policies, and processes necessary for the administration or implementation of this section, RCW 82.16.120, and sections 2 and 7 of this act. The department is authorized, in consultation with the Washington State University extension energy program, to adopt any rules necessary for administration or implementation of the program established under this section and section 7 of this act.

(29) Applications, certifications, requests for incentive payments under this section, and the information contained therein are not deemed tax information under RCW 82.32.330 and are subject to disclosure.

(30)(a) By November 1, 2019, and in compliance with RCW 43.01.036, the Washington State University extension energy program must submit a report to the legislature that includes the following:

(i) The number and types of renewable energy systems that have been certified under this section as of July 1, 2019, both statewide and per participating utility;

(ii) The number of utilities that are approaching or have reached the credit limit established under RCW 82.16.130(2) or the thresholds established under section 6(13) of this act;

(iii) The share of renewable energy systems by type that contribute to each utility's threshold under subsection (13) of this section;

(iv) An assessment of the deployment of community solar projects in the state, including but not limited to the following:

(A) An evaluation of whether or not community solar projects are being deployed in low-income and moderate-income communities, as

those terms are defined in RCW 43.63A.510, including a description of any barriers to project deployment in these communities;

(B) A description of the share of community solar projects by administrator type that contribute to each utility's threshold under subsection (13)(a) of this section; and

(C) A description of any barriers to participation by nonprofits and local housing authorities in the incentive program established under this section and under section 7 of this act;

(v) The total dollar amount of incentive payments that have been made to participants in the incentive program established under this section to date; and

(vi) The total number of megawatts of solar photovoltaic capacity installed to date by participants in the incentive program established under this section.

(b) By December 31, 2019, the legislature must review the report submitted under (a) of this subsection and determine whether the credit limit established under RCW 82.16.130(2) should be increased to two percent of a light and power business' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or two hundred fifty thousand dollars, whichever is greater, in order to achieve the legislative intent under section 1 of this act.

NEW SECTION. **Sec. 7.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of community solar programs is to facilitate broad, equitable community investment in and access to solar power. Beginning July 1, 2017, a community solar administrator may organize and administer a community solar project as provided in this section.

(2) A community solar project must have a direct current nameplate capacity that is no more than one thousand kilowatts and must have at least ten participants or one participant for every ten kilowatts of direct current nameplate capacity, whichever is greater. A community solar project that has a direct current nameplate capacity greater than five hundred kilowatts must be subject to a standard interconnection agreement with the utility serving the situs of the community solar project. Except for community solar projects authorized under subsection (9) of this section, each participant must be a customer of the utility providing service at the situs of the community solar project.

(3) The administrator of a community solar project must administer the project in a transparent manner that allows for fair and nondiscriminatory opportunity for participation by utility customers.

(4) The administrator of a community solar project may establish a reasonable fee to cover costs incurred in organizing and administering the community solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the portion of the incentive payment that will be used for this purpose.

(5) The administrator of a community solar project must maintain and update annually through June 30, 2030, the following information for each project it operates or administers:

(a) Ownership information;

(b) Contact information for technical management questions;

(c) Business address;

(d) Project design details, including project location, output capacity, equipment list, and interconnection information; and

(e) Subscription information, including rates, fees, terms, and conditions.

(6) The administrator of a community solar project must provide the information required in subsection (5) of this section to the Washington State University extension energy program at the time it submits the application allowed under section 6(1) of this act.

(7) The administrator of a community solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) Plain language disclosure of the terms under which the project participant's share of any incentive payment will be calculated by the Washington State University extension energy program over the life of the contract;

(b) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(c) All recurring and nonrecurring charges;

(d) A description of the billing and payment procedures;

(e) A description of any compensation to be paid in the event of project underperformance;

(f) Current production projections and a description of the methodology used to develop the projections;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) A utility may not adopt rates, terms, conditions, or standards that unduly or unreasonably discriminate between utility-administered community solar projects and those administered by another entity.

(9) A public utility district that is engaged in distributing electricity to more than one retail electric customer in the state and a joint operating agency organized under chapter 43.52 RCW on or before January 1, 2017, may enter into an agreement with each other to construct and own a community solar project that is located on property owned by a joint operating agency or on property that receives electric service from a participating public utility district. Each participant of a community solar project under this subsection must be a customer of at least one of the public utility districts that is a party to the agreement with a joint operating agency to construct and own a community solar project.

(10) The Washington utilities and transportation commission must publish, without disclosing proprietary information, a list of the following:

(a) Entities other than utilities, including affiliates or subsidiaries of utilities, that organize and administer community solar projects; and

(b) Community solar projects and related programs and services offered by investor-owned utilities.

(11) If a consumer-owned utility opts to provide a community solar program or contracts with a nonutility administrator to offer a community solar program, the governing body of the consumer-owned utility must publish, without disclosing proprietary information, a list of the nonutility administrators contracted by the utility as part of its community solar program.

(12) Except for parties engaged in actions and transactions regulated under laws administered by other authorities and exempted under RCW 19.86.170, a violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of

business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(13) Nothing in this section may be construed as intending to preclude persons from investing in or possessing an ownership interest in a community solar project, or from applying for and receiving federal investment tax credits.

NEW SECTION. **Sec. 8.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of a shared commercial solar project is to provide an entry point in solar utilization by large load customers in a manner that achieves economies of scale and maximizes system performance without limitations posed by on-site systems where sun exposure is not optimal or structural and other site deficiencies preclude solar development.

(2) Beginning July 1, 2017, a utility may, at its discretion, organize and administer a shared commercial solar project as provided in this section.

(3) A shared commercial solar project must have a direct current nameplate capacity greater than one megawatt and no more than five megawatts and must have at least five participants. To receive incentive payments under section 6 of this act, each participant must be a customer of the utility providing service at the situs of the shared commercial solar project and must be located in the state of Washington.

(4) The administrator of a shared commercial solar project must administer the project in a transparent manner.

(5) The administrator of a shared commercial solar project may establish a reasonable fee to cover costs incurred in organizing and administering the shared commercial solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the fees charged by the administrator as authorized under this subsection.

(6) The administrator of a shared commercial solar project must submit to the Washington State University extension energy program at the time it submits an application allowed under section 6(1) of this act project design details, including project location, output capacity, equipment list, and interconnection information.

(7) The administrator of a shared commercial solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) All recurring and nonrecurring charges;

(b) A description of the billing and payment procedures;

(c) Production projections and a description of the methodology used to develop the projections;

(d) An estimate of the project participant's share of any incentive payment over the life of the contract;

(e) A description of contract terms that relate to project underperformance;

(f) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) If a utility opts to contract with a nonutility administrator to offer a shared commercial solar program, the utility must publish, without disclosing proprietary information, the name of the nonutility administrator contracted by the utility as part of its shared commercial solar program.

(9) In order to meet the intent of this act of promoting a sustainable, local renewable energy industry, the legislature prefers award of the majority of the installation of shared commercial solar projects be given to contractors based in Washington state. In the event the majority of the installation of a shared commercial solar project is awarded to out-of-state contractors, the administrator must submit to the Washington State University extension energy program the reasons for using out-of-state contractors, the percentage of installation work performed by out-of-state contractors, and a cost comparison of the installation services performed by out-of-state contractors against the same services performed by Washington-based contractors.

NEW SECTION. **Sec. 9.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Any person who sells a solar module to a customer-owner, or who receives compensation from a customer-owner in exchange for

installing a solar module for use in a residential-scale system or commercial-scale system in Washington must provide to the customer-owner current information regarding the tax incentives available to the customer-owner under Washington law, including the scheduled expiration date of any tax incentives and the maximum period of time during which the customer-owner may benefit from any tax incentives, based on the law as it existed on the date of sale or installation of the solar module.

(2) The definitions in section 5 of this act apply to this section.

(3) For the purposes of this section, "solar module" has the same meaning as provided in RCW 82.16.110.

(4) The legislature finds that the practices covered by this section are matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW. A violation of this section is not reasonable in relation to the development and preservation of business and is an unfair or deceptive act or practice in the conduct of trade or commerce and an unfair method of competition. Violations of this section may be enforced by the attorney general under the consumer protection act, chapter 19.86 RCW.

NEW SECTION. **Sec. 10.** A new section is added to chapter 80.28 RCW to read as follows:

The definitions in this section apply throughout this section and section 11 of this act unless the context clearly requires otherwise.

(1) "Community solar company" means a person, firm, or corporation, other than an electric utility or a community solar cooperative, that owns a community solar project and provides community solar project services to project participants.

(2) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts.

(3) "Community solar project services" means the provision of electricity generated by a community solar project, or the provision of the financial benefits associated with electricity generated by a community solar project, to multiple project participants, and may include other services associated with the use of the community solar project such as system monitoring and maintenance, warranty provisions, performance guarantees, and customer service.

(4) "Electric utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(5) "Project participant" means a customer who enters into a lease, power purchase agreement, loan, or other financial agreement with a community solar company in order to obtain a beneficial interest in, other than direct ownership of, a community solar project.

(6) "Solar energy system" means any device or combination of devices or elements that rely upon direct sunlight as an energy source for use in the generation of electricity.

NEW SECTION. **Sec. 11.** A new section is added to chapter 80.28 RCW to read as follows:

(1) No community solar company may engage in business in this state except in accordance with the provisions of this chapter. Engaging in business as a community solar company includes advertising, soliciting, offering, or entering into an agreement to own a community solar project and provide community solar project services to electric utility customers.

(2) A community solar company must register with the commission before engaging in business in this state or applying for certification from the Washington State University extension energy program under section 6(1) of this act. Registration with the commission as a community solar company must occur on an annual basis. The registration must be on a form prescribed by the commission and contain that information as the commission may by rule require, but must include at a minimum:

(a) The name and address of the community solar company;

(b) The name and address of the community solar company's registered agent, if any;

(c) The name, address, and title of each officer or director;

(d) The community solar company's most current balance sheet;

(e) The community solar company's latest annual report, if any;

(f) A description of the services the community solar company offers or intends to offer, including financing models; and

(g) Disclosure of any pending litigation against it.

(3) As a precondition to registration, the commission may require the procurement of a performance bond or other mechanism sufficient to cover any advances or deposits the community solar company may

collect from project participants or order that the advances or deposits be held in escrow or trust.

(4) The commission may deny registration to any community solar company that:

(a) Does not provide the information required by this section;

(b) Fails to provide a performance bond or other mechanism, if required;

(c) Does not possess adequate financial resources to provide the proposed service; or

(d) Does not possess adequate technical competency to provide the proposed service.

(5) The commission must take action to approve or issue a notice of hearing concerning any application for registration within thirty days after receiving the application. The commission may approve an application with or without a hearing. The commission may deny an application after a hearing.

(6) The commission may charge a community solar company an annual application fee to recover the cost of processing applications for registration under this section.

(7) The commission may adopt rules that describe the manner by which it will register a community solar company, ensure that the terms and conditions of community solar projects or community solar project services comply with the requirements of this act, establish the community solar company's responsibilities for responding to customer complaints and disputes, and adopt annual reporting requirements. In addition to the application fee authorized under subsection (6) of this section, the commission may adopt regulatory fees applicable to community solar companies pursuant to RCW 80.04.080, 80.24.010, and 80.24.020. Such fees may not exceed the cost of ensuring compliance with this chapter.

(8) The commission may suspend or revoke a registration upon complaint by any interested party, or upon the commission's own motion after notice and opportunity for hearing, when it finds that a registered community solar company or its agent has violated this chapter or the rules of the commission, or that the community solar company or its agent has been found by a court or governmental agency to have violated the laws of a state or the United States.

(9) For the purpose of ensuring compliance with this chapter, the commission may issue penalties against community solar companies for

violations of this chapter as provided for public service companies pursuant to chapter 80.04 RCW.

(10) Upon request of the commission, a community solar company registered under this section must provide information about its community solar projects or community solar project services.

(11) A violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(12) For the purposes of RCW 19.86.170, actions or transactions of a community solar company may not be deemed otherwise permitted, prohibited, or regulated by the commission.

NEW SECTION. **Sec. 12.** (1) **Findings.** The legislature finds that a convenient, safe, and environmentally sound system for the recycling of photovoltaic modules, minimization of hazardous waste, and recovery of commercially valuable materials must be established. The legislature further finds that the responsibility for this system must be shared among all stakeholders, with manufacturers financing the takeback and recycling system.

(2) **Definitions.** For purposes of this section the following definitions apply:

(a) "Consumer electronic device" means any device containing an electronic circuit board that is intended for everyday use by individuals, such as a watch or calculator.

(b) "Department" means the department of ecology.

(c) "Manufacturer" means any person in business or no longer in business but having a successor in interest who, irrespective of the selling technique used, including by means of distance or remote sale:

(i) Manufactures or has manufactured a photovoltaic module under its own brand names for sale in or into this state;

(ii) Assembles or has assembled a photovoltaic module that uses parts manufactured by others for sale in or into this state under the assembler's brand names;

(iii) Resells or has resold in or into this state under its own brand names a photovoltaic module produced by other suppliers,

including retail establishments that sell photovoltaic modules under their own brand names;

(iv) Manufactures or has manufactured a cobranded photovoltaic module product for sale in or into this state that carries the name of both the manufacturer and a retailer;

(v) Imports or has imported a photovoltaic module into the United States that is sold in or into this state. However, if the imported photovoltaic module is manufactured by any person with a presence in the United States meeting the criteria of manufacturer under (a) through (d) of this subsection, that person is the manufacturer;

(vi) Sells at retail a photovoltaic module acquired from an importer that is the manufacturer and elects to register as the manufacturer for those products; or

(vii) Elects to assume the responsibility and register in lieu of a manufacturer as defined under (b)(i) through (vi) of this subsection.

(d) "Photovoltaic module" means the smallest nondivisible, environmentally protected assembly of photovoltaic cells or other photovoltaic collector technology and ancillary parts intended to generate electrical power under sunlight, except that "photovoltaic module" does not include a photovoltaic cell that is part of a consumer electronic device for which it provides electricity needed to make the consumer electronic device function. "Photovoltaic module" includes but is not limited to interconnections, terminals, and protective devices such as diodes that:

(i) Are installed on, connected to, or integral with buildings; or

(ii) Are used as components of freestanding, off-grid, power generation systems, such as for powering water pumping stations, electric vehicle charging stations, fencing, street and signage lights, and other commercial or agricultural purposes.

(e) "Rare earth element" means lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, or scandium.

(f) "Reuse" means any operation by which a photovoltaic module or a component of a photovoltaic module changes ownership and is used for the same purpose for which it was originally purchased.

(g) "Stewardship plan" means the plan developed by a manufacturer or its designated stewardship organization for a self-directed stewardship program.

(h) "Stewardship program" means the activities conducted by a manufacturer or a stewardship organization to fulfill the requirements of this chapter and implement the activities described in its stewardship plan.

(3) **Program guidance, review, and approval.** The department must develop guidance for a photovoltaic module stewardship and takeback program to guide manufacturers in preparing and implementing a self-directed program to ensure the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials. By January 1, 2018, the department must establish a process to develop guidance for photovoltaic module stewardship plans by working with manufacturers, stewardship organizations, and other stakeholders on the content, review, and approval of stewardship plans. The department's process must be fully implemented and stewardship plan guidance completed by July 1, 2019.

(4) **Stewardship organization as agent of manufacturer.** A stewardship organization may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating and implementing the stewardship program required under this chapter. Any stewardship organization that has obtained such designation must provide to the department a list of the manufacturers and brand names that the stewardship organization represents within sixty days of its designation by a manufacturer as its agent, or within sixty days of removal of such designation.

(5) **Stewardship plans.** Each manufacturer must prepare and submit a stewardship plan to the department by the later of January 1, 2020, or within thirty days of its first sale of a photovoltaic module in or into the state.

(a) A stewardship plan must, at a minimum:

(i) Describe how manufacturers will finance the takeback and recycling system, and include an adequate funding mechanism to finance the costs of collection, management, and recycling of photovoltaic modules and residuals sold in or into the state by the manufacturer with a mechanism that ensures that photovoltaic modules can be delivered to takeback locations without cost to the last owner or holder;

(ii) Accept all photovoltaic modules sold in or into the state after July 1, 2017;

(iii) Describe how the program will minimize the release of hazardous substances into the environment and maximize the recovery of other components, including rare earth elements and commercially valuable materials;

(iv) Provide for takeback of photovoltaic modules at locations that are within the region of the state in which the photovoltaic modules were used and are as convenient as reasonably practicable, and if no such location within the region of the state exists, include an explanation for the lack of such location;

(v) Identify how relevant stakeholders, including consumers, installers, building demolition firms, and recycling and treatment facilities, will receive information required in order for them to properly dismantle, transport, and treat the end-of-life photovoltaic modules in a manner consistent with the objectives described in (a)(iii) of this subsection;

(vi) Establish performance goals, including a goal for the rate of combined reuse and recycling of collected photovoltaic modules as a percentage of the total weight of photovoltaic modules collected, which rate must be no less than eighty-five percent.

(b) A manufacturer must implement the stewardship plan.

(c) A manufacturer may periodically amend its stewardship plan. The department must approve the amendment if it meets the requirements for plan approval outlined in the department's guidance. When submitting proposed amendments, the manufacturer must include an explanation of why such amendments are necessary.

(6) **Plan approval.** The department must approve a stewardship plan if it determines the plan addresses each element outlined in the department's guidance.

(7) **Annual report.** (a) Beginning April 1, 2022, and by April 1st in each subsequent year, a manufacturer, or its designated stewardship organization, must provide to the department a report for the previous calendar year that documents implementation of the plan and assesses achievement of the performance goals established in subsection (5)(a)(vi) of this section.

(b) The report may include any recommendations to the department or the legislature on modifications to the program that would enhance the effectiveness of the program, including management of program

costs and mitigation of environmental impacts of photovoltaic modules.

(c) The manufacturer or stewardship organization must post this report on a publicly accessible web site.

(8) **Enforcement.** Beginning January 1, 2021, no manufacturer may sell or offer for sale a photovoltaic module in or into the state unless the manufacturer has submitted to the department a stewardship plan and received plan approval. The department must send a written warning to a manufacturer that is not participating in a plan. The written warning must inform the manufacturer that it must submit a plan or participate in a plan within thirty days of the notice. The department may assess a penalty of up to ten thousand dollars for each sale of a photovoltaic module in or into the state that occurs after the initial written warning. A manufacturer may appeal a penalty issued under this section to the superior court of Thurston county within one hundred eighty days of receipt of the notice.

(9) **Fee.** The department may collect a flat fee from participating manufacturers to recover costs associated with the plan guidance, review, and approval process described in subsection (3) of this section. Other administrative costs incurred by the department for program implementation activities, including stewardship plan review and approval, enforcement, and any rule making, may be recovered by charging every manufacturer an annual fee calculated by dividing department administrative costs by the manufacturer's pro rata share of the Washington state photovoltaic module sales in the most recent preceding calendar year, based on best available information. The sole purpose of assessing the fees authorized in this subsection is to predictably and adequately fund the department's costs of administering the photovoltaic module recycling program.

(10) **Account.** The photovoltaic module recycling account is created in the custody of the state treasurer. All fees collected from manufacturers under this chapter must be deposited in the account. Expenditures from the account may be used only for administering this chapter. Only the director of the department or the director's designee may authorize expenditures from the account. The account is subject to the allotment procedures under chapter 43.88 RCW, but an appropriation is not required for expenditures. Funds in the account may not be diverted for any purpose or activity other than those specified in this section.

(11) **Rule making.** The department may adopt rules as necessary for the purpose of implementing, administering, and enforcing this chapter.

(12) **National program.** In lieu of preparing a stewardship plan and as provided by subsection (5) of this section, a manufacturer may participate in a national program for the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials, if substantially equivalent to the intent of the state program. The department may determine substantial equivalence if it determines that the national program adequately addresses and fulfills each of the elements of a stewardship plan outlined in subsection (5)(a) of this section and includes an enforcement mechanism reasonably calculated to ensure a manufacturer's compliance with the national program. Upon issuing a determination of substantial equivalence, the department must notify affected stakeholders including the manufacturer. If the national program is discontinued or the department determines the national program is no longer substantially equivalent to the state program in Washington, the department must notify the manufacturer and the manufacturer must provide a stewardship plan as described in subsection (5)(a) of this section to the department for approval within thirty days of notification.

NEW SECTION. **Sec. 13.** A new section is added to chapter 43.180 RCW to read as follows:

(1) It is the intent of the legislature to investigate methods by which the state may establish or facilitate financing models that allow electric utilities in the state to maximize federal tax incentives and monetize the depreciation of renewable energy systems and other distributed energy assets, with the goal of providing improved access to the benefits of these assets to low and moderate income households as well as broad system benefits to utility ratepayers and state taxpayers.

(2) By December 31, 2017, the commission must prepare and submit to the appropriate committees of the legislature a report that assesses financing tools or models for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources. The report must:

(a) Assess the legal, financial, and economic feasibility of one or more financing tools or models for the aggregation of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources;

(b) Consider the state and federal legal aspects of such a financing tool or model, including considerations of how to structure the role of the state or any subdivision of the state in a manner that is consistent with the Constitution of the state of Washington; and

(c) Describe any legislation that may be necessary to facilitate, implement, or create incentives for the private sector to implement such a financing tool or model within the state.

(3) Beginning July 1, 2018, the commission may implement a financing tool or model for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources if the commission determines that it is legally, financially, and economically feasible and that it would further the public policy goals set forth in subsection (1) of this section.

Sec. 14. RCW 82.08.962 and 2013 2nd sp.s. c 13 s 1502 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.08.963, purchasers who have paid the tax imposed by RCW 82.08.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the tax levied by RCW 82.08.020 does not apply to the sale of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor

and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The purchaser is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2) For purposes of this section and RCW 82.12.962, the following definitions apply:

(a) "Biomass energy" includes: (i) By-products of pulping and wood manufacturing process; (ii) animal waste; (iii) solid organic fuels from wood; (iv) forest or field residues; (v) wooden demolition or construction debris; (vi) food waste; (vii) liquors derived from algae and other sources; (viii) dedicated energy crops; (ix) biosolids; and (x) yard waste. "Biomass energy" does not include wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic; wood from old growth forests; or municipal solid waste.

(b) "Fuel cell" means an electrochemical reaction that generates electricity by combining atoms of hydrogen and oxygen in the presence of a catalyst.

(c) "Landfill gas" means biomass fuel, of the type qualified for federal tax credits under Title 26 U.S.C. Sec. 29 of the federal internal revenue code, collected from a "landfill" as defined under RCW 70.95.030.

(d)(i) "Machinery and equipment" means fixtures, devices, and support facilities that are integral and necessary to the generation of electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power.

(ii) "Machinery and equipment" does not include: (A) Hand-powered tools; (B) property with a useful life of less than one year; (C) repair parts required to restore machinery and equipment to normal working order; (D) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (E) buildings; or (F) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building.

(3)(a) Machinery and equipment is "used directly" in generating electricity by wind energy, solar energy, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas power if it provides any part of the process that captures the energy of the wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(b) Machinery and equipment is "used directly" in generating electricity by fuel cells if it provides any part of the process that captures the energy of the fuel, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(4)(a) A purchaser claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by RCW 82.08.020 and all applicable local sales taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The purchaser may then apply to the department for remittance in a form and manner prescribed by the department. A purchaser may not apply for a remittance under this section more frequently than once per quarter. The purchaser must specify the amount of exempted tax claimed and the qualifying purchases for which the exemption is claimed. The purchaser must retain, in adequate detail, records to enable the department to determine whether the purchaser is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the purchaser, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying purchasers who submitted applications during the previous quarter.

(5) The exemption provided by this section expires September 30, 2017, as it applies to: (a) Machinery and equipment that is used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of

electricity; or (b) sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(6) This section expires January 1, 2020.

Sec. 15. RCW 82.08.963 and 2013 2nd sp.s. c 13 s 1602 are each amended to read as follows:

(1) The tax levied by RCW 82.08.020 does not apply to sales of machinery and equipment used directly in generating electricity or producing thermal heat using solar energy, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not more than ten kilowatts of electricity or producing not more than three million British thermal units per day and provides the seller with an exemption certificate in a form and manner prescribed by the department. The seller must retain a copy of the certificate for the seller's files. For sellers who electronically file their taxes, the department must provide a separate tax reporting line for exemption amounts claimed by a buyer under this section.

(2) For purposes of this section and RCW 82.12.963:

(a) "Machinery and equipment" means industrial fixtures, devices, and support facilities that are integral and necessary to the generation of electricity or production and use of thermal heat using solar energy;

(b) "Machinery and equipment" does not include: (i) Hand-powered tools; (ii) property with a useful life of less than one year; (iii) repair parts required to restore machinery and equipment to normal working order; (iv) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (v) buildings; or (vi) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building;

(c) Machinery and equipment is "used directly" in generating electricity with solar energy if it provides any part of the process that captures the energy of the sun, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems; and

(d) Machinery and equipment is "used directly" in producing thermal heat with solar energy if it uses a solar collector or a solar hot water system that (i) meets the certification standards for solar collectors and solar hot water systems developed by the solar rating and certification corporation; or (ii) is determined by the Washington State University extension whether a solar collector or solar hot water system is an equivalent collector or system.

(3) The exemption provided by this section for the sales of machinery and equipment that is used directly in the generation of electricity using solar energy, or for sales of or charges made for labor or services rendered in respect to installing such machinery and equipment, expires September 30, 2017.

(4) This section expires June 30, 2018.

Sec. 16. RCW 82.12.962 and 2013 2nd sp.s. c 13 s 1505 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.12.963, consumers who have paid the tax imposed by RCW 82.12.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the provisions of this chapter do not apply in respect to the use of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The consumer is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2)(a) A person claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by

RCW 82.12.020 and all applicable local use taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The consumer may then apply to the department for remittance in a form and manner prescribed by the department. A consumer may not apply for a remittance under this section more frequently than once per quarter. The consumer must specify the amount of exempted tax claimed and the qualifying purchases or acquisitions for which the exemption is claimed. The consumer must retain, in adequate detail, records to enable the department to determine whether the consumer is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the consumer, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying consumers who submitted applications during the previous quarter.

(3) Purchases exempt under RCW 82.08.962 are also exempt from the tax imposed under RCW 82.12.020.

(4) The definitions in RCW 82.08.962 apply to this section.

(5) The exemption provided in subsection (1) of this section does not apply:

(a) To machinery and equipment used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of electricity, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To any other machinery and equipment described in subsection (1)(a) of this section, or to sales of or charges made for labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after December 31, 2019.

(6) This section expires January 1, 2020.

Sec. 17. RCW 82.12.963 and 2013 2nd sp.s. c 13 s 1603 are each amended to read as follows:

(1) The provisions of this chapter do not apply with respect to machinery and equipment used directly in generating not more than ten kilowatts of electricity or producing not more than three million

British thermal units per day using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment.

(2) The definitions in RCW 82.08.963 apply to this section.

(3) The exemption provided by this section does not apply:

(a) To the use of machinery and equipment used directly in the generation of electricity using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To the use of any machinery or equipment used directly in producing thermal heat using solar energy, or to the use of labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after June 30, 2018.

(4) This section expires June 30, 2018.

NEW SECTION. **Sec. 18.** Section 12 of this act constitutes a new chapter in Title 70 RCW.

NEW SECTION. **Sec. 19.** This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately.

Passed by the Senate June 30, 2017.
Passed by the House June 30, 2017.
Approved by the Governor July 7, 2017.
Filed in Office of Secretary of State July 7, 2017.

--- END ---

CERTIFICATION OF ENROLLMENT

ENGROSSED SUBSTITUTE SENATE BILL 5939

65th Legislature
2017 3rd Special Session

Passed by the Senate July 1, 2017
Yeas 47 Nays 2

President of the Senate

Passed by the House July 1, 2017
Yeas 74 Nays 19

Speaker of the House of Representatives

Approved

Governor of the State of Washington

CERTIFICATE

I, Hunter G. Goodman, Secretary of the Senate of the State of Washington, do hereby certify that the attached is **ENGROSSED SUBSTITUTE SENATE BILL 5939** as passed by Senate and the House of Representatives on the dates hereon set forth.

Secretary

FILED

Secretary of State
State of Washington

ENGROSSED SUBSTITUTE SENATE BILL 5939

Passed Legislature - 2017 3rd Special Session

State of Washington 65th Legislature 2017 3rd Special Session

By Senate Ways & Means (originally sponsored by Senators Ericksen and Palumbo)

READ FIRST TIME 06/30/17.

AN ACT Relating to promoting a sustainable, local renewable energy industry through modifying renewable energy system tax incentives and providing guidance for renewable energy system component recycling; amending RCW 82.16.120, 82.16.130, 82.08.962, 82.08.963, 82.12.962, and 82.12.963; adding new sections to chapter 82.16 RCW; adding new sections to chapter 80.28 RCW; adding a new section to chapter 43.180 RCW; adding a new chapter to Title 70 RCW; creating a new section; and declaring an emergency.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** The legislature finds and declares that stimulating local investment in distributed renewable energy generation is an important part of a state energy strategy, helping to increase energy independence from fossil fuels, promote economic development, hedge against the effects of climate change, and attain environmental benefits. The legislature intends to increase the effectiveness of the existing renewable energy investment cost recovery program by reducing the maximum incentive rate provided for each kilowatt-hour of electricity generated by a renewable energy system over the period of the program and by creating opportunities for broader participation by low-income individuals and others who may not own the premises where a renewable energy system may be

installed. The legislature intends to provide an incentive sufficient to promote installation of systems through 2021, at which point the legislature expects that the state's renewable energy industry will be capable of sustained growth and vitality without the cost recovery incentive. The legislature intends for the program to balance the deployment of community solar and shared commercial solar projects in order to support participation in renewable energy generation, and that deployment of community solar projects is balanced among eligible utilities, nonprofits, and local housing authorities, as doing so will support maximum deployment of renewable energy generation throughout the state.

NEW SECTION. **Sec. 2.** A new section is added to chapter 82.16 RCW to read as follows:

(1) This section is the tax preference performance statement for the tax preference and incentives created under RCW 82.16.130 and section 6 of this act. This performance statement is only intended to be used for subsequent evaluation of the tax preference and incentives. It is not intended to create a private right of action by any party or be used to determine eligibility for preferential tax treatment.

(2) The legislature categorizes the tax preference created under RCW 82.16.130 and incentive payments authorized in section 6 of this act as intended to:

(a) Induce participating utilities to make incentive payments to utility customers who invest in renewable energy systems; and

(b) By inducing utilities, nonprofit organizations, and utility customers to acquire and install renewable energy systems, retain jobs in the clean energy sector and create additional jobs.

(3) The legislature's public policy objectives are to:

(a) Increase energy independence from fossil fuels; and

(b) Promote economic development through increasing and improving investment in, development of, and use of clean energy technology in Washington; and

(c) Increase the number of jobs in and enhance the sustainability of the clean energy technology industry in Washington.

(4) It is the legislature's intent to provide the incentives in section 6 of this act and RCW 82.16.130 in order to ensure the sustainable job growth and vitality of the state's renewable energy sector. The purpose of the incentive is to reduce the costs

associated with installing and operating solar energy systems by persons or entities receiving the incentive.

(5) As part of its 2021 tax preference reviews, the joint legislative audit and review committee must review the tax preferences and incentives in section 6 of this act and RCW 82.16.130. The legislature intends for the legislative auditor to determine that the incentive has achieved its desired outcomes if the following objectives are achieved:

(a) Installation of one hundred fifteen megawatts of solar photovoltaic capacity by participants in the incentive program between July 1, 2017, and June 30, 2021; and

(b) Growth of solar-related employment from 2015 levels, as evidenced by:

(i) An increased per capita rate of solar energy-related jobs in Washington, which may be determined by consulting a relevant trade association in the state; or

(ii) Achievement of an improved national ranking for solar energy-related employment and per capita solar energy-related employment, as reported in a nationally recognized report.

(6) In order to obtain the data necessary to perform the review, the joint legislative audit and review committee may refer to data collected by the Washington State University extension energy program and may obtain employment data from the employment security department.

(7) The Washington State University extension energy program must collect, through the application process, data from persons claiming the tax credit under RCW 82.16.130 and persons receiving the incentive payments created in section 6 of this act, as necessary, and may collect data from other interested persons as necessary to report on the performance of this act.

(8) All recipients of tax credits or incentive payments awarded under this chapter must provide data necessary to evaluate the tax preference performance objectives in this section as requested by the Washington State University extension energy program or the joint legislative audit and review committee. Failure to comply may result in the loss of a tax credit award or incentive payment in the following year.

Sec. 3. RCW 82.16.120 and 2011 c 179 s 3 are each amended to read as follows:

(1)(a) Any individual, business, local governmental entity, not in the light and power business or in the gas distribution business, or a participant in a community solar project may apply to the light and power business serving the situs of the system, each fiscal year beginning on July 1, 2005, and ending June 30, 2017, for an investment cost recovery incentive for each kilowatt-hour from a customer-generated electricity renewable energy system.

(b) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(i), the administrator must apply for the investment cost recovery incentive on behalf of each of the other owners.

(c) In the case of a community solar project as defined in RCW 82.16.110(2)(a)(iii), the company owning the community solar project must apply for the investment cost recovery incentive on behalf of each member of the company.

(2)(a) Before submitting for the first time the application for the incentive allowed under subsection (4) of this section, the applicant must submit to the department of revenue and to the climate and rural energy development center at the Washington State University, established under RCW 28B.30.642, a certification in a form and manner prescribed by the department that includes, but is not limited to, the ((~~following~~)) information((~~:~~)) described in (c) of this subsection.

(b) The department may not accept certifications submitted to the department under (a) of this subsection after September 30, 2017.

(c) The certification must include:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the certification must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the certification must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) That the electricity produced by the applicant meets the definition of "customer-generated electricity" and that the renewable energy system produces electricity with:

(A) Any solar inverters and solar modules manufactured in Washington state;

(B) A wind generator powered by blades manufactured in Washington state;

(C) A solar inverter manufactured in Washington state;

(D) A solar module manufactured in Washington state;

(E) A stirling converter manufactured in Washington state; or

(F) Solar or wind equipment manufactured outside of Washington state;

(iv) That the electricity can be transformed or transmitted for entry into or operation in parallel with electricity transmission and distribution systems; and

(v) The date that the renewable energy system received its final electrical ((~~permit~~)) inspection from the applicable local jurisdiction.

((~~(b)~~)) (d) Within thirty days of receipt of the certification the department of revenue must notify the applicant by mail, or electronically as provided in RCW 82.32.135, whether the renewable energy system qualifies for an incentive under this section. The department may consult with the climate and rural energy development center to determine eligibility for the incentive. System certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(3)(a) By August 1st of each year through August 1, 2017, the application for the incentive must be made to the light and power business serving the situs of the system by certification in a form and manner prescribed by the department that includes, but is not limited to, the following information:

(i) The name and address of the applicant and location of the renewable energy system.

(A) If the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), the application must also include the name and address of each of the owners of the community solar project.

(B) If the applicant is a company that owns a community solar project as defined in RCW 82.16.110(2)(a)(iii), the application must also include the name and address of each member of the company;

(ii) The applicant's tax registration number;

(iii) The date of the notification from the department of revenue stating that the renewable energy system is eligible for the incentives under this section; and

(iv) A statement of the amount of kilowatt-hours generated by the renewable energy system in the prior fiscal year.

(b) Within sixty days of receipt of the incentive certification the light and power business serving the situs of the system must notify the applicant in writing whether the incentive payment will be authorized or denied. The business may consult with the climate and rural energy development center to determine eligibility for the incentive payment. Incentive certifications and the information contained therein are not confidential tax information under RCW 82.32.330 and are subject to disclosure ((~~under RCW 82.32.330(3)(l)~~)).

(c)(i) Persons, administrators of community solar projects, and companies receiving incentive payments must keep and preserve, for a period of five years, suitable records as may be necessary to determine the amount of incentive applied for and received. Such records must be open for examination at any time upon notice by the light and power business that made the payment or by the department. If upon examination of any records or from other information obtained by the business or department it appears that an incentive has been paid in an amount that exceeds the correct amount of incentive payable, the business may assess against the person for the amount found to have been paid in excess of the correct amount of incentive payable and must add thereto interest on the amount. Interest is assessed in the manner that the department assesses interest upon delinquent tax under RCW 82.32.050.

(ii) If it appears that the amount of incentive paid is less than the correct amount of incentive payable the business may authorize additional payment.

(4) Except for community solar projects, the investment cost recovery incentive may be paid fifteen cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For community solar projects, the investment cost recovery incentive may be paid thirty cents per economic development kilowatt-hour unless requests exceed the amount authorized for credit to the participating light and power business. For the purposes of this section, the rate paid for the investment cost recovery incentive may be multiplied by the following factors:

(a) For customer-generated electricity produced using solar modules manufactured in Washington state or a solar stirling converter manufactured in Washington state, two and four-tenths;

(b) For customer-generated electricity produced using a solar or a wind generator equipped with an inverter manufactured in Washington state, one and two-tenths;

(c) For customer-generated electricity produced using an anaerobic digester, or by other solar equipment or using a wind generator equipped with blades manufactured in Washington state, one; and

(d) For all other customer-generated electricity produced by wind, eight-tenths.

(5)(a) No individual, household, business, or local governmental entity is eligible for incentives provided under subsection (4) of this section for more than five thousand dollars per year.

(b) Except as provided in (c) through (e) of this subsection (5), each applicant in a community solar project is eligible for up to five thousand dollars per year.

(c) Where the applicant is an administrator of a community solar project as defined in RCW 82.16.110(2)(a)(i), each owner is eligible for an incentive but only in proportion to the ownership share of the project, up to five thousand dollars per year.

(d) Where the applicant is a company owning a community solar project that has applied for an investment cost recovery incentive on behalf of its members, each member of the company is eligible for an incentive that would otherwise belong to the company but only in proportion to each ownership share of the company, up to five thousand dollars per year. The company itself is not eligible for incentives under this section.

(e) In the case of a utility-owned community solar project, each ratepayer that contributes to the project is eligible for an incentive in proportion to the contribution, up to five thousand dollars per year.

(6) ((~~If requests for the investment cost recovery incentive exceed the amount of funds available for credit to the participating light and power business, the incentive payments must be reduced proportionately.~~

~~(7)~~)) The climate and rural energy development center at Washington State University energy program may establish guidelines and standards for technologies that are identified as Washington

manufactured and therefore most beneficial to the state's environment.

((~~(8)~~)) (7) The environmental attributes of the renewable energy system belong to the applicant, and do not transfer to the state or the light and power business upon receipt of the investment cost recovery incentive.

((~~(9)~~)) (8) No incentive may be paid under this section for kilowatt-hours generated before July 1, 2005, or after June 30, ((~~2020~~)) 2017, except as provided in subsections (10) through (12) of this section.

(9) Beginning October 1, 2017, program management, technical review, and tracking responsibilities of the department under this section are transferred to the Washington State University extension energy program. At the earliest date practicable and no later than September 30, 2017, the department must transfer all records necessary for the administration of the remaining incentive payments due under this section to the Washington State University extension energy program.

(10) Participants in the renewable energy investment cost recovery program under this section will continue to receive payments for electricity produced through June 30, 2020, at the same rates their utility paid to participants for electricity produced between July 1, 2015, and June 30, 2016.

(11) In order to continue to receive the incentive payment allowed under subsection (4) of this section, a person or community solar project administrator who has, by September 30, 2017, submitted a complete certification to the department under subsection (2) of this section must apply to the Washington State University extension energy program by April 30, 2018, for a certification authorizing the utility serving the situs of the renewable energy system to annually remit the incentive payment allowed under subsection (4) of this section for each kilowatt-hour generated by the renewable energy system through June 30, 2020.

(12)(a) The Washington State University extension energy program must establish an application process and form by which to collect the system operation data described in section 6(7)(a)(iii) of this act from each person or community solar project administrator applying for a certification under subsection (11) of this section. The Washington State University extension energy program must notify any applicant that providing this data is a condition of

certification and that any certification issued pursuant to this section is void as of June 30, 2018, if the applicant has failed to provide the data by that date.

(b) Beginning July 1, 2018, the Washington State University extension energy program must, in a form and manner that is consistent with the roles and processes established under section 6 (19) and (20) of this act, calculate for the year and provide to the utility the amount of the incentive payment due to each participant under subsection (11) of this section.

Sec. 4. RCW 82.16.130 and 2010 c 202 s 3 are each amended to read as follows:

(1) A light and power business ((~~shall be~~)) is allowed a credit against taxes due under this chapter in an amount equal to ((~~investment cost recovery~~)):

(a) Incentive payments made in any fiscal year under RCW 82.16.120 and section 6 of this act; and

(b) Any fees a utility is allowed to recover pursuant to section 6(5) of this act.

(2) The credits ((~~shall~~)) must be taken in a form and manner as required by the department. The credit taken under this section for the fiscal year may not exceed one and one-half percent of the businesses' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or ((~~one~~)) two hundred fifty thousand dollars, whichever is greater. ((~~Incentive payments to participants in a utility-owned community solar project as defined in RCW 82.16.110(2)(a)(ii) may only account for up to twenty-five percent of the total allowable credit. Incentive payments to participants in a company-owned community solar project as defined in RCW 82.16.110(2)(a)(iii) may only account for up to five percent of the total allowable credit.~~))

(3) The credit may not exceed the tax that would otherwise be due under this chapter. Refunds ((~~shall~~)) may not be granted in the place of credits. Expenditures not used to earn a credit in one fiscal year may not be used to earn a credit in subsequent years.

((~~(2)~~)) (4) For any business that has claimed credit for amounts that exceed the correct amount of the incentive payable under RCW 82.16.120, the amount of tax against which credit was claimed for the excess payments ((~~shall be~~)) is immediately due and payable. The

department may deduct amounts due from future credits claimed by the business.

(a) Except as provided in (b) of this subsection, the department ((~~shall~~)) must assess interest but not penalties on the taxes against which the credit was claimed. Interest ((~~shall~~)) must be assessed at the rate provided for delinquent excise taxes under chapter 82.32 RCW, retroactively to the date the credit was claimed, and ((~~shall~~)) accrues until the taxes against which the credit was claimed are repaid.

((~~(3)~~)) (b) A business is not liable for excess payments made in reliance on amounts reported by the Washington State University extension energy program as due and payable as provided under section 6(20) of this act, if such amounts are later found to be abnormal or inaccurate due to no fault of the business.

(5) The amount of credit taken under this section is not confidential taxpayer information under RCW 82.32.330 and is subject to disclosure.

(6) The right to earn tax credits ((~~under this section~~)) for incentive payments made under RCW 82.16.120 expires June 30, 2020. Credits may not be claimed after June 30, 2021.

(7) The right to earn tax credits for incentive payments made under section 6 of this act expires June 30, ((~~2020~~)) 2029. Credits may not be claimed after June 30, ((~~2021~~)) 2030.

NEW SECTION. **Sec. 5.** A new section is added to chapter 82.16 RCW to read as follows:

The definitions in this section apply throughout this section and sections 6 through 8 of this act unless the context clearly requires otherwise.

(1) "Administrator" means the utility, nonprofit, or other local housing authority that organizes and administers a community solar project as provided in sections 6 and 7 of this act.

(2) "Certification" means the authorization issued by the Washington State University extension energy program establishing a person's eligibility to receive annual incentive payments from the person's utility for the program term.

(3) "Commercial-scale system" means a renewable energy system or systems other than a community solar project or a shared commercial solar project with a combined nameplate capacity greater than twelve

kilowatts that meets the applicable system eligibility requirements established in section 6 of this act.

(4) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts and meets the applicable eligibility requirements established in sections 6 and 7 of this act.

(5) "Consumer-owned utility" has the same meaning as in RCW 19.280.020.

(6) "Customer-owner" means the owner of a residential-scale or commercial-scale renewable energy system, where such owner is not a utility and such owner is a customer of the utility and either owns the premises where the renewable energy system is installed or occupies the premises.

(7) "Electric utility" or "utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(8) "Governing body" has the same meaning as provided in RCW 19.280.020.

(9) "Person" means any individual, firm, partnership, corporation, company, association, agency, or any other legal entity.

(10) "Program term" means: (a) For community solar projects, eight years or until cumulative incentive payments for electricity produced by the project reach fifty percent of the total system price, including applicable sales tax, whichever occurs first; and (b) for other renewable energy systems, including shared commercial solar projects, eight years or until cumulative incentive payments for electricity produced by a system reach fifty percent of the total system price, including applicable sales tax, whichever occurs first.

(11) "Renewable energy system" means a solar energy system, including a community solar project, an anaerobic digester as defined in RCW 82.08.900, or a wind generator used for producing electricity.

(12) "Residential-scale system" means a renewable energy system or systems located at a single situs with combined nameplate capacity of twelve kilowatts or less that meets the applicable system eligibility requirements established in section 6 of this act.

(13) "Shared commercial solar project" means a solar energy system, owned or administered by an electric utility, with a combined nameplate capacity of greater than one megawatt and not more than five megawatts and meets the applicable eligibility requirements established in sections 6 and 8 of this act.

NEW SECTION. **Sec. 6.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Beginning July 1, 2017, the following persons may submit a one-time application to the Washington State University extension energy program to receive a certification authorizing the utility serving the situs of a renewable energy system in the state of Washington to remit an annual production incentive for each kilowatt-hour of alternating current electricity generated by the renewable energy system:

(a) The utility's customer who is the customer-owner of a residential-scale or commercial-scale renewable energy system;

(b) An administrator of a community solar project meeting the eligibility requirements outlined in section 7 of this act and applies for certification on behalf of each of the project participants; or

(c) A utility or a business under contract with a utility that administers a shared commercial solar project that meets the eligibility requirements in section 8 of this act and applies for certification on behalf of each of the project participants.

(2) No person, business, or household is eligible to receive incentive payments provided under subsection (1) of this section of more than five thousand dollars per year for residential systems or community solar projects, twenty-five thousand dollars per year for commercial-scale systems, or thirty-five thousand dollars per year for shared commercial solar projects.

(3)(a) No new certification may be issued under this section to an applicant who submits a request for or receives an annual incentive payment for a renewable energy system that was certified under RCW 82.16.120, or for a renewable energy system served by a utility that has elected not to participate in the incentive program, as provided in subsection (4) of this section.

(b) The Washington State University extension energy program may issue a new certification for an additional system installed at a situs with a previously certified system so long as the new system meets the requirements of this section and its production can be measured separately from the previously certified system.

(c) The Washington State University extension energy program may issue a recertification for a residential-scale or commercial-scale system if a customer makes investments resulting in an expansion of the system's nameplate capacity. Such recertification expires on the

same day as the original certification for the residential-scale or commercial-scale system and applies to the entire system the incentive rates and program rules in effect as of the date of the recertification.

(4) A utility's participation in the incentive program provided in this section is voluntary.

(a) A utility electing to participate in the incentive program must notify the Washington State University extension energy program of such election in writing.

(b) The utility may terminate its voluntary participation in the production incentive program by providing notice in writing to the Washington State University extension energy program to cease issuing new certifications for renewable energy systems that would be served by that utility.

(c) Such notice of termination of participation is effective after fifteen days, at which point the Washington State University extension energy program may not accept new applications for certification of renewable energy systems that would be served by that utility.

(d) Upon receiving a utility's notice of termination of participation in the incentive program, the Washington State University extension energy program must report on its web site that customers of that utility are no longer eligible to receive new certifications under the program.

(e) A utility's termination of participation does not affect the utility's obligation to continue to make annual incentive payments for electricity generated by systems that were certified prior to the effective date of the notice. The Washington State University extension energy program must continue to process and issue certifications for renewable energy systems that were received by the Washington State University extension energy program before the effective date of the notice of termination.

(f) A utility that has terminated participation in the program may resume participation upon filing notice with the Washington State University extension energy program.

(5)(a) The Washington State University extension energy program may certify a renewable energy system that is connected to equipment capable of measuring the electricity production of the system and interconnecting with the utility's system in a manner that allows the utility, or the customer at the utility's option, to measure and

report to the Washington State University extension energy program the total amount of electricity produced by the renewable energy system.

(b) The Washington State University extension energy program must establish a reporting and fee-for-service system to accept electricity production data from the utility or the customer that is not reported electronically and with the reporting entity selected at the utility's option as described in subsection (19) of this section. The fee-for-service agreement must allow for electronic reporting or reporting by mail, may be specific to individual utilities, and must recover only the program's costs of obtaining the electricity production data and incorporating it into an electronic format. A statement of the amount due for the fee-for-service must be provided to the utility by the Washington State University extension energy program with the report provided to the utility pursuant to subsection (20)(a) of this section. The utility may determine how to assess and remit the fee, and the utility may be allowed a credit for fees paid under this subsection (5) against taxes due, as provided in RCW 82.16.130(1).

(6) The Washington State University extension energy program may issue a certification authorizing annual incentive payments up to the following annual dollar limits:

(a) For community solar projects, five thousand dollars per project participant;

(b) For residential-scale systems, five thousand dollars;

(c) For commercial-scale systems, twenty-five thousand dollars; and

(d) For shared commercial solar projects, up to thirty-five thousand dollars a year per participant, as determined by the terms of subsection (15) of this section.

(7)(a) To obtain certification under this section, a person must submit to the Washington State University extension energy program an application, including:

(i) A signed statement that the applicant has not previously received a notice of eligibility from the department under RCW 82.16.120 entitling the applicant to receive annual incentive payments for electricity generated by the renewable energy system at the same meter location;

(ii) A signed statement of the total price, including applicable sales tax, paid by the applicant for the renewable energy system;

(iii) System operation data including global positioning system coordinates, tilt, estimated shading, and azimuth;

(iv) Any other information the Washington State University extension energy program deems necessary in determining eligibility and incentive levels, administering the program, tracking progress toward achieving the limits on program participation established in RCW 82.16.130, or facilitating the review of the performance of the tax preferences by the joint legislative audit and review committee, as described in section 2 of this act; and

(v)(A) Except as provided in (a)(v)(B) of this subsection (7), the date that the renewable energy system received its final electrical inspection from the applicable local jurisdiction, as well as a copy of the permit or, if the permit is available online, the permit number;

(B) The Washington State University extension energy program may waive the requirement in (a)(v)(A) of this subsection (7), accepting an application and granting provisional certification prior to proof of final electrical inspection. Provisional certification expires one hundred eighty days after issuance, unless the applicant submits proof of the final electrical inspection from the applicable local jurisdiction or the Washington State University extension energy program extends the certification, for a term or terms of thirty days, due to extenuating circumstances; and

(b)(i) Prior to obtaining certification under this subsection, a community solar project or shared commercial solar project must apply for precertification against the remaining funds available for incentive payments under subsection (13)(d) of this section in order to be guaranteed an incentive payment under this section;

(ii) A project applicant of a community solar project or shared commercial solar project must complete an application for certification with the Washington State University extension energy program within less than one year to retain the precertification status described in this subsection; and

(iii) The Washington State University extension energy program may design a reservation or precertification system for an applicant of a residential-scale or commercial-scale renewable energy system.

(8) No incentive payments may be authorized or accrued until the final electrical inspection and executed interconnection agreement are submitted to the Washington State University extension energy program.

(9) Within thirty days of receipt of the application for certification, the Washington State University extension energy program must notify the applicant and, except when a utility is the applicant, the utility serving the situs of the renewable energy system, by mail or electronically, whether certification has been granted. The certification notice must state the rate to be paid per kilowatt-hour of electricity generated by the renewable energy system, as provided in subsection (12) of this section, subject to any applicable cap on total annual payment provided in subsection (6) of this section.

(10) Certification is valid for the program term and entitles the applicant or, in the case of a community solar project or shared commercial solar project, the participant, to receive incentive payments for electricity generated from the date the renewable energy system commences operation, or the date the system is certified, whichever date is later. For purposes of this subsection, the Washington State University extension energy program must define when a renewable energy system commences operation and provide notice of such date to the recipient and the utility serving the situs of the system. Certification may not be retroactively changed except to correct later discovered errors that were made during the original application or certification process.

(11)(a) System certification follows the system if the following conditions are met using procedures established by the Washington State University extension energy program:

(i) The renewable energy system is transferred to a new owner who notifies the Washington State University extension energy program of the transfer; and

(ii) The new owner provides an executed interconnection agreement with the utility serving the premises.

(b) In the event that a community solar project participant terminates their participation in a community solar project, the system certification follows the system and participation may be transferred to a new participant. The administrator of a community solar project must provide notice to the Washington State University extension energy program of any changes or transfers in project participation.

(12) The Washington State University extension energy program must determine the total incentive rate for a new renewable energy system certification by adding to the base rate any applicable made-

in-Washington bonus rate. A made-in-Washington bonus rate is provided for a renewable energy system or a community solar project with solar modules made in Washington or with a wind turbine or tower that is made in Washington. Both the base rates and bonus rate vary, depending on the fiscal year in which the system is certified and the type of renewable energy system being certified, as provided in the following table:

Fiscal year of system certification	Base rate - residential-scale	Base rate - commercial-scale	Base rate - community solar	Base rate - shared commercial solar	Made in Washington bonus
2018	$0.16	$0.06	$0.16	$0.06	$0.05
2019	$0.14	$0.04	$0.14	$0.04	$0.04
2020	$0.12	$0.02	$0.12	$0.02	$0.03
2021	$0.10	$0.02	$0.10	$0.02	$0.02

(13) The Washington State University extension energy program must cease to issue new certifications:

(a) For community solar projects and shared commercial solar projects in any fiscal year for which the Washington State University extension energy program estimates that fifty percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to community solar projects and shared commercial solar projects combined;

(b) For commercial-scale systems in any fiscal year for which the Washington State University extension energy program estimates that twenty-five percent of the remaining funds for credit available to a utility for renewable energy systems certified under this section as of July 1, 2017, have been allocated to commercial-scale systems;

(c) For any renewable energy system served by a utility, if certification is likely to result in incentive payments by that utility, including payments made under RCW 82.16.120, exceeding the utility's available funds for credit under RCW 82.16.130; and

(d) For any renewable energy system, if certification is likely to result in total incentive payments under this section exceeding one hundred ten million dollars.

(14) If the Washington State University extension energy program ceases issuing new certifications during a fiscal year or biennium as provided in subsection (13) of this section, in the following fiscal

year or biennium, or when additional funds are available for credit such that the thresholds described in subsection (13) of this section are no longer exceeded, the Washington State University extension energy program must resume issuing new certifications using a method of awarding certifications that results in equitable and orderly allocation of benefits to applicants.

(15) A customer who is a participant in a shared commercial solar project may not receive incentive payments associated with the project greater than the difference between the levelized cost of energy output of the system over its production life and the retail rate for the rate class to which the customer belongs. The levelized cost of the output of the energy must be determined by the utility that administers the shared commercial solar project and must be disclosed, along with an explanation of the limitations on incentive payments contained in this subsection (15), in the contractual agreement with the shared commercial solar project participants.

(16) In order to begin to receive annual incentive payments, a person who has been issued a certification for the incentive as provided in subsection (9) of this section must obtain an executed interconnection agreement with the utility serving the situs of the renewable energy system.

(17) The Washington State University extension energy program must establish a list of equipment that is eligible for the bonus rates described in subsection (12) of this section. The Washington State University extension energy program must, in consultation with the department of commerce, develop technical specifications and guidelines to ensure consistent and predictable determination of eligibility. A solar module is made in Washington for purposes of receiving the bonus rate only if the lamination of the module takes place in Washington. A wind turbine is made in Washington only if it is powered by a turbine or built with a tower manufactured in Washington.

(18) The manufacturer of a renewable energy system component subject to a bonus rate under subsection (12) of this section may apply to the Washington State University extension energy program to receive a determination of eligibility for such bonus rates. The Washington State University extension energy program must publish a list of components that have been certified as eligible for such bonus rates. The Washington State University extension energy program may assess an equipment certification fee to recover its costs. The

Washington State University extension energy program must deposit all revenue generated by this fee into the state general fund.

(19) Annually, the utility must report electronically to the Washington State University extension energy program the amount of gross kilowatt-hours generated by each renewable energy system since the prior annual report. For the purposes of this section, to report electronically means to submit statistical or factual information in alphanumeric form through a web site established by the Washington State University extension energy program or in a list, table, spreadsheet, or other nonnarrative format that can be digitally transmitted or processed. The utility may instead opt to report by mail or require program participants to report individually, but if the utility exercises one or more of these options it must negotiate with the Washington State University extension energy program the fee-for-service arrangement described in subsection (5)(b) of this section.

(20)(a) The Washington State University extension energy program must calculate for the year and provide to the utility the amount of the incentive payment due to each participant and the total amount of credit against tax due available to the utility under RCW 82.16.130 that has been allocated as annual incentive payments. Upon notice to the Washington State University extension energy program, a utility may opt to directly perform this calculation and provide its results to the Washington State University extension energy program.

(b) If the Washington State University extension energy program identifies an abnormal production claim, it must notify the utility, the department of revenue, and the applicant, and must recommend withholding payment until the applicant has demonstrated that the production claim is accurate and valid. The utility is not liable to the customer for withholding payments pursuant to such recommendation unless and until the Washington State University extension energy program notifies the utility to resume incentive payments.

(21)(a) The utility must issue the incentive payment within ninety days of receipt of the information required under subsection (20)(a) of this section from the Washington State University extension energy program. The utility must resume the incentive payments withheld under subsection (20)(b) of this section within thirty days of receiving notice from the Washington State University extension energy program that the claim has been demonstrated accurate and valid and payment should be resumed.

(b) A utility is not liable for incentive payments to a customer-owner if the utility has disconnected the customer due to a violation of a customer service agreement, such as nonpayment of the customer's bill, or a violation of an interconnection agreement.

(22) Beginning January 1, 2018, the Washington State University extension energy program must post on its web site and update at least monthly a report, by utility, of:

(a) The number of certifications issued for renewable energy systems, including estimated system sizes, costs, and annual energy production and incentive yields for various system types; and

(b) An estimate of the amount of credit that has not yet been allocated for incentive payments under each utility's credit limit and remains available for new renewable energy system certifications.

(23) Persons receiving incentive payments under this section must keep and preserve, for a period of five years for the duration of the consumer contract, suitable records as may be necessary to determine the amount of incentive payments applied for and received. The Washington State University extension energy program may direct a utility to cease issuing incentive payments if the records are not made available for examination upon request. A utility receiving such a directive is not liable to the applicant for any incentive payments or other damages for ceasing payments pursuant to the directive.

(24) The nonpower attributes of the renewable energy system belong to the utility customer who owns or hosts the system or, in the case of a community solar project or a shared commercial solar project, the participant, and can be kept, sold, or transferred at the utility customer's discretion unless, in the case of a utility-owned community solar or shared commercial solar project, a contract between the customer and the utility clearly specifies that the attributes will be retained by the utility.

(25) All lists, technical specifications, determinations, and guidelines developed under this section must be made publicly available online by the Washington State University extension energy program.

(26) No certification may be issued under this section after June 30, 2021.

(27) The Washington State University extension energy program must collect a one-time fee for applications submitted under subsection (1) of this section of one hundred twenty-five dollars per applicant. The Washington State University extension energy program

must deposit all revenue generated by this fee into the state general fund. The Washington State University extension energy program must administer and budget for the program established in RCW 82.16.120, this section, and section 7 of this act in a manner that ensures its administrative costs through June 30, 2022, are completely met by the revenues from this fee. If the Washington State University extension energy program determines that the fee authorized in this subsection is insufficient to cover the administrative costs through June 30, 2022, the Washington State University extension energy program must report to the legislature on costs incurred and fees collected and demonstrate why a different fee amount or funding mechanism should be authorized.

(28) The Washington State University extension energy program may, through a public process, develop any program requirements, policies, and processes necessary for the administration or implementation of this section, RCW 82.16.120, and sections 2 and 7 of this act. The department is authorized, in consultation with the Washington State University extension energy program, to adopt any rules necessary for administration or implementation of the program established under this section and section 7 of this act.

(29) Applications, certifications, requests for incentive payments under this section, and the information contained therein are not deemed tax information under RCW 82.32.330 and are subject to disclosure.

(30)(a) By November 1, 2019, and in compliance with RCW 43.01.036, the Washington State University extension energy program must submit a report to the legislature that includes the following:

(i) The number and types of renewable energy systems that have been certified under this section as of July 1, 2019, both statewide and per participating utility;

(ii) The number of utilities that are approaching or have reached the credit limit established under RCW 82.16.130(2) or the thresholds established under section 6(13) of this act;

(iii) The share of renewable energy systems by type that contribute to each utility's threshold under subsection (13) of this section;

(iv) An assessment of the deployment of community solar projects in the state, including but not limited to the following:

(A) An evaluation of whether or not community solar projects are being deployed in low-income and moderate-income communities, as

those terms are defined in RCW 43.63A.510, including a description of any barriers to project deployment in these communities;

(B) A description of the share of community solar projects by administrator type that contribute to each utility's threshold under subsection (13)(a) of this section; and

(C) A description of any barriers to participation by nonprofits and local housing authorities in the incentive program established under this section and under section 7 of this act;

(v) The total dollar amount of incentive payments that have been made to participants in the incentive program established under this section to date; and

(vi) The total number of megawatts of solar photovoltaic capacity installed to date by participants in the incentive program established under this section.

(b) By December 31, 2019, the legislature must review the report submitted under (a) of this subsection and determine whether the credit limit established under RCW 82.16.130(2) should be increased to two percent of a light and power business' taxable power sales generated in calendar year 2014 and due under RCW 82.16.020(1)(b) or two hundred fifty thousand dollars, whichever is greater, in order to achieve the legislative intent under section 1 of this act.

NEW SECTION. **Sec. 7.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of community solar programs is to facilitate broad, equitable community investment in and access to solar power. Beginning July 1, 2017, a community solar administrator may organize and administer a community solar project as provided in this section.

(2) A community solar project must have a direct current nameplate capacity that is no more than one thousand kilowatts and must have at least ten participants or one participant for every ten kilowatts of direct current nameplate capacity, whichever is greater. A community solar project that has a direct current nameplate capacity greater than five hundred kilowatts must be subject to a standard interconnection agreement with the utility serving the situs of the community solar project. Except for community solar projects authorized under subsection (9) of this section, each participant must be a customer of the utility providing service at the situs of the community solar project.

(3) The administrator of a community solar project must administer the project in a transparent manner that allows for fair and nondiscriminatory opportunity for participation by utility customers.

(4) The administrator of a community solar project may establish a reasonable fee to cover costs incurred in organizing and administering the community solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the portion of the incentive payment that will be used for this purpose.

(5) The administrator of a community solar project must maintain and update annually through June 30, 2030, the following information for each project it operates or administers:

(a) Ownership information;

(b) Contact information for technical management questions;

(c) Business address;

(d) Project design details, including project location, output capacity, equipment list, and interconnection information; and

(e) Subscription information, including rates, fees, terms, and conditions.

(6) The administrator of a community solar project must provide the information required in subsection (5) of this section to the Washington State University extension energy program at the time it submits the application allowed under section 6(1) of this act.

(7) The administrator of a community solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) Plain language disclosure of the terms under which the project participant's share of any incentive payment will be calculated by the Washington State University extension energy program over the life of the contract;

(b) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(c) All recurring and nonrecurring charges;

(d) A description of the billing and payment procedures;

(e) A description of any compensation to be paid in the event of project underperformance;

(f) Current production projections and a description of the methodology used to develop the projections;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) A utility may not adopt rates, terms, conditions, or standards that unduly or unreasonably discriminate between utility-administered community solar projects and those administered by another entity.

(9) A public utility district that is engaged in distributing electricity to more than one retail electric customer in the state and a joint operating agency organized under chapter 43.52 RCW on or before January 1, 2017, may enter into an agreement with each other to construct and own a community solar project that is located on property owned by a joint operating agency or on property that receives electric service from a participating public utility district. Each participant of a community solar project under this subsection must be a customer of at least one of the public utility districts that is a party to the agreement with a joint operating agency to construct and own a community solar project.

(10) The Washington utilities and transportation commission must publish, without disclosing proprietary information, a list of the following:

(a) Entities other than utilities, including affiliates or subsidiaries of utilities, that organize and administer community solar projects; and

(b) Community solar projects and related programs and services offered by investor-owned utilities.

(11) If a consumer-owned utility opts to provide a community solar program or contracts with a nonutility administrator to offer a community solar program, the governing body of the consumer-owned utility must publish, without disclosing proprietary information, a list of the nonutility administrators contracted by the utility as part of its community solar program.

(12) Except for parties engaged in actions and transactions regulated under laws administered by other authorities and exempted under RCW 19.86.170, a violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of

business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(13) Nothing in this section may be construed as intending to preclude persons from investing in or possessing an ownership interest in a community solar project, or from applying for and receiving federal investment tax credits.

NEW SECTION. **Sec. 8.** A new section is added to chapter 82.16 RCW to read as follows:

(1) The purpose of a shared commercial solar project is to provide an entry point in solar utilization by large load customers in a manner that achieves economies of scale and maximizes system performance without limitations posed by on-site systems where sun exposure is not optimal or structural and other site deficiencies preclude solar development.

(2) Beginning July 1, 2017, a utility may, at its discretion, organize and administer a shared commercial solar project as provided in this section.

(3) A shared commercial solar project must have a direct current nameplate capacity greater than one megawatt and no more than five megawatts and must have at least five participants. To receive incentive payments under section 6 of this act, each participant must be a customer of the utility providing service at the situs of the shared commercial solar project and must be located in the state of Washington.

(4) The administrator of a shared commercial solar project must administer the project in a transparent manner.

(5) The administrator of a shared commercial solar project may establish a reasonable fee to cover costs incurred in organizing and administering the shared commercial solar project. Project participants, prior to making the commitment to participate in the project, must be given clear and conspicuous notice of the fees charged by the administrator as authorized under this subsection.

(6) The administrator of a shared commercial solar project must submit to the Washington State University extension energy program at the time it submits an application allowed under section 6(1) of this act project design details, including project location, output capacity, equipment list, and interconnection information.

(7) The administrator of a shared commercial solar project must provide each project participant with a disclosure form containing all material terms and conditions of participation in the project, including but not limited to the following:

(a) All recurring and nonrecurring charges;

(b) A description of the billing and payment procedures;

(c) Production projections and a description of the methodology used to develop the projections;

(d) An estimate of the project participant's share of any incentive payment over the life of the contract;

(e) A description of contract terms that relate to project underperformance;

(f) Contract provisions regulating the disposition or transfer of the project participant's interest in the project, including any potential costs associated with such a transfer;

(g) Contact information for questions and complaints; and

(h) Any other terms and conditions of the services provided by the administrator.

(8) If a utility opts to contract with a nonutility administrator to offer a shared commercial solar program, the utility must publish, without disclosing proprietary information, the name of the nonutility administrator contracted by the utility as part of its shared commercial solar program.

(9) In order to meet the intent of this act of promoting a sustainable, local renewable energy industry, the legislature prefers award of the majority of the installation of shared commercial solar projects be given to contractors based in Washington state. In the event the majority of the installation of a shared commercial solar project is awarded to out-of-state contractors, the administrator must submit to the Washington State University extension energy program the reasons for using out-of-state contractors, the percentage of installation work performed by out-of-state contractors, and a cost comparison of the installation services performed by out-of-state contractors against the same services performed by Washington-based contractors.

NEW SECTION. **Sec. 9.** A new section is added to chapter 82.16 RCW to read as follows:

(1) Any person who sells a solar module to a customer-owner, or who receives compensation from a customer-owner in exchange for

installing a solar module for use in a residential-scale system or commercial-scale system in Washington must provide to the customer-owner current information regarding the tax incentives available to the customer-owner under Washington law, including the scheduled expiration date of any tax incentives and the maximum period of time during which the customer-owner may benefit from any tax incentives, based on the law as it existed on the date of sale or installation of the solar module.

(2) The definitions in section 5 of this act apply to this section.

(3) For the purposes of this section, "solar module" has the same meaning as provided in RCW 82.16.110.

(4) The legislature finds that the practices covered by this section are matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW. A violation of this section is not reasonable in relation to the development and preservation of business and is an unfair or deceptive act or practice in the conduct of trade or commerce and an unfair method of competition. Violations of this section may be enforced by the attorney general under the consumer protection act, chapter 19.86 RCW.

NEW SECTION. **Sec. 10.** A new section is added to chapter 80.28 RCW to read as follows:

The definitions in this section apply throughout this section and section 11 of this act unless the context clearly requires otherwise.

(1) "Community solar company" means a person, firm, or corporation, other than an electric utility or a community solar cooperative, that owns a community solar project and provides community solar project services to project participants.

(2) "Community solar project" means a solar energy system that has a direct current nameplate generating capacity that is no larger than one thousand kilowatts.

(3) "Community solar project services" means the provision of electricity generated by a community solar project, or the provision of the financial benefits associated with electricity generated by a community solar project, to multiple project participants, and may include other services associated with the use of the community solar project such as system monitoring and maintenance, warranty provisions, performance guarantees, and customer service.

(4) "Electric utility" means a consumer-owned utility or investor-owned utility as those terms are defined in RCW 19.280.020.

(5) "Project participant" means a customer who enters into a lease, power purchase agreement, loan, or other financial agreement with a community solar company in order to obtain a beneficial interest in, other than direct ownership of, a community solar project.

(6) "Solar energy system" means any device or combination of devices or elements that rely upon direct sunlight as an energy source for use in the generation of electricity.

NEW SECTION. **Sec. 11.** A new section is added to chapter 80.28 RCW to read as follows:

(1) No community solar company may engage in business in this state except in accordance with the provisions of this chapter. Engaging in business as a community solar company includes advertising, soliciting, offering, or entering into an agreement to own a community solar project and provide community solar project services to electric utility customers.

(2) A community solar company must register with the commission before engaging in business in this state or applying for certification from the Washington State University extension energy program under section 6(1) of this act. Registration with the commission as a community solar company must occur on an annual basis. The registration must be on a form prescribed by the commission and contain that information as the commission may by rule require, but must include at a minimum:

(a) The name and address of the community solar company;

(b) The name and address of the community solar company's registered agent, if any;

(c) The name, address, and title of each officer or director;

(d) The community solar company's most current balance sheet;

(e) The community solar company's latest annual report, if any;

(f) A description of the services the community solar company offers or intends to offer, including financing models; and

(g) Disclosure of any pending litigation against it.

(3) As a precondition to registration, the commission may require the procurement of a performance bond or other mechanism sufficient to cover any advances or deposits the community solar company may

collect from project participants or order that the advances or deposits be held in escrow or trust.

(4) The commission may deny registration to any community solar company that:

(a) Does not provide the information required by this section;

(b) Fails to provide a performance bond or other mechanism, if required;

(c) Does not possess adequate financial resources to provide the proposed service; or

(d) Does not possess adequate technical competency to provide the proposed service.

(5) The commission must take action to approve or issue a notice of hearing concerning any application for registration within thirty days after receiving the application. The commission may approve an application with or without a hearing. The commission may deny an application after a hearing.

(6) The commission may charge a community solar company an annual application fee to recover the cost of processing applications for registration under this section.

(7) The commission may adopt rules that describe the manner by which it will register a community solar company, ensure that the terms and conditions of community solar projects or community solar project services comply with the requirements of this act, establish the community solar company's responsibilities for responding to customer complaints and disputes, and adopt annual reporting requirements. In addition to the application fee authorized under subsection (6) of this section, the commission may adopt regulatory fees applicable to community solar companies pursuant to RCW 80.04.080, 80.24.010, and 80.24.020. Such fees may not exceed the cost of ensuring compliance with this chapter.

(8) The commission may suspend or revoke a registration upon complaint by any interested party, or upon the commission's own motion after notice and opportunity for hearing, when it finds that a registered community solar company or its agent has violated this chapter or the rules of the commission, or that the community solar company or its agent has been found by a court or governmental agency to have violated the laws of a state or the United States.

(9) For the purpose of ensuring compliance with this chapter, the commission may issue penalties against community solar companies for

violations of this chapter as provided for public service companies pursuant to chapter 80.04 RCW.

(10) Upon request of the commission, a community solar company registered under this section must provide information about its community solar projects or community solar project services.

(11) A violation of this section constitutes an unfair or deceptive act in trade or commerce in violation of chapter 19.86 RCW, the consumer protection act. Acts in violation of this act are not reasonable in relation to the development and preservation of business, and constitute matters vitally affecting the public interest for the purpose of applying the consumer protection act, chapter 19.86 RCW.

(12) For the purposes of RCW 19.86.170, actions or transactions of a community solar company may not be deemed otherwise permitted, prohibited, or regulated by the commission.

NEW SECTION. **Sec. 12.** (1) **Findings.** The legislature finds that a convenient, safe, and environmentally sound system for the recycling of photovoltaic modules, minimization of hazardous waste, and recovery of commercially valuable materials must be established. The legislature further finds that the responsibility for this system must be shared among all stakeholders, with manufacturers financing the takeback and recycling system.

(2) **Definitions.** For purposes of this section the following definitions apply:

(a) "Consumer electronic device" means any device containing an electronic circuit board that is intended for everyday use by individuals, such as a watch or calculator.

(b) "Department" means the department of ecology.

(c) "Manufacturer" means any person in business or no longer in business but having a successor in interest who, irrespective of the selling technique used, including by means of distance or remote sale:

(i) Manufactures or has manufactured a photovoltaic module under its own brand names for sale in or into this state;

(ii) Assembles or has assembled a photovoltaic module that uses parts manufactured by others for sale in or into this state under the assembler's brand names;

(iii) Resells or has resold in or into this state under its own brand names a photovoltaic module produced by other suppliers,

including retail establishments that sell photovoltaic modules under their own brand names;

(iv) Manufactures or has manufactured a cobranded photovoltaic module product for sale in or into this state that carries the name of both the manufacturer and a retailer;

(v) Imports or has imported a photovoltaic module into the United States that is sold in or into this state. However, if the imported photovoltaic module is manufactured by any person with a presence in the United States meeting the criteria of manufacturer under (a) through (d) of this subsection, that person is the manufacturer;

(vi) Sells at retail a photovoltaic module acquired from an importer that is the manufacturer and elects to register as the manufacturer for those products; or

(vii) Elects to assume the responsibility and register in lieu of a manufacturer as defined under (b)(i) through (vi) of this subsection.

(d) "Photovoltaic module" means the smallest nondivisible, environmentally protected assembly of photovoltaic cells or other photovoltaic collector technology and ancillary parts intended to generate electrical power under sunlight, except that "photovoltaic module" does not include a photovoltaic cell that is part of a consumer electronic device for which it provides electricity needed to make the consumer electronic device function. "Photovoltaic module" includes but is not limited to interconnections, terminals, and protective devices such as diodes that:

(i) Are installed on, connected to, or integral with buildings; or

(ii) Are used as components of freestanding, off-grid, power generation systems, such as for powering water pumping stations, electric vehicle charging stations, fencing, street and signage lights, and other commercial or agricultural purposes.

(e) "Rare earth element" means lanthanum, cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium, yttrium, or scandium.

(f) "Reuse" means any operation by which a photovoltaic module or a component of a photovoltaic module changes ownership and is used for the same purpose for which it was originally purchased.

(g) "Stewardship plan" means the plan developed by a manufacturer or its designated stewardship organization for a self-directed stewardship program.

(h) "Stewardship program" means the activities conducted by a manufacturer or a stewardship organization to fulfill the requirements of this chapter and implement the activities described in its stewardship plan.

(3) **Program guidance, review, and approval.** The department must develop guidance for a photovoltaic module stewardship and takeback program to guide manufacturers in preparing and implementing a self-directed program to ensure the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials. By January 1, 2018, the department must establish a process to develop guidance for photovoltaic module stewardship plans by working with manufacturers, stewardship organizations, and other stakeholders on the content, review, and approval of stewardship plans. The department's process must be fully implemented and stewardship plan guidance completed by July 1, 2019.

(4) **Stewardship organization as agent of manufacturer.** A stewardship organization may be designated to act as an agent on behalf of a manufacturer or manufacturers in operating and implementing the stewardship program required under this chapter. Any stewardship organization that has obtained such designation must provide to the department a list of the manufacturers and brand names that the stewardship organization represents within sixty days of its designation by a manufacturer as its agent, or within sixty days of removal of such designation.

(5) **Stewardship plans.** Each manufacturer must prepare and submit a stewardship plan to the department by the later of January 1, 2020, or within thirty days of its first sale of a photovoltaic module in or into the state.

(a) A stewardship plan must, at a minimum:

(i) Describe how manufacturers will finance the takeback and recycling system, and include an adequate funding mechanism to finance the costs of collection, management, and recycling of photovoltaic modules and residuals sold in or into the state by the manufacturer with a mechanism that ensures that photovoltaic modules can be delivered to takeback locations without cost to the last owner or holder;

(ii) Accept all photovoltaic modules sold in or into the state after July 1, 2017;

(iii) Describe how the program will minimize the release of hazardous substances into the environment and maximize the recovery of other components, including rare earth elements and commercially valuable materials;

(iv) Provide for takeback of photovoltaic modules at locations that are within the region of the state in which the photovoltaic modules were used and are as convenient as reasonably practicable, and if no such location within the region of the state exists, include an explanation for the lack of such location;

(v) Identify how relevant stakeholders, including consumers, installers, building demolition firms, and recycling and treatment facilities, will receive information required in order for them to properly dismantle, transport, and treat the end-of-life photovoltaic modules in a manner consistent with the objectives described in (a)(iii) of this subsection;

(vi) Establish performance goals, including a goal for the rate of combined reuse and recycling of collected photovoltaic modules as a percentage of the total weight of photovoltaic modules collected, which rate must be no less than eighty-five percent.

(b) A manufacturer must implement the stewardship plan.

(c) A manufacturer may periodically amend its stewardship plan. The department must approve the amendment if it meets the requirements for plan approval outlined in the department's guidance. When submitting proposed amendments, the manufacturer must include an explanation of why such amendments are necessary.

(6) **Plan approval.** The department must approve a stewardship plan if it determines the plan addresses each element outlined in the department's guidance.

(7) **Annual report.** (a) Beginning April 1, 2022, and by April 1st in each subsequent year, a manufacturer, or its designated stewardship organization, must provide to the department a report for the previous calendar year that documents implementation of the plan and assesses achievement of the performance goals established in subsection (5)(a)(vi) of this section.

(b) The report may include any recommendations to the department or the legislature on modifications to the program that would enhance the effectiveness of the program, including management of program

costs and mitigation of environmental impacts of photovoltaic modules.

(c) The manufacturer or stewardship organization must post this report on a publicly accessible web site.

(8) **Enforcement.** Beginning January 1, 2021, no manufacturer may sell or offer for sale a photovoltaic module in or into the state unless the manufacturer has submitted to the department a stewardship plan and received plan approval. The department must send a written warning to a manufacturer that is not participating in a plan. The written warning must inform the manufacturer that it must submit a plan or participate in a plan within thirty days of the notice. The department may assess a penalty of up to ten thousand dollars for each sale of a photovoltaic module in or into the state that occurs after the initial written warning. A manufacturer may appeal a penalty issued under this section to the superior court of Thurston county within one hundred eighty days of receipt of the notice.

(9) **Fee.** The department may collect a flat fee from participating manufacturers to recover costs associated with the plan guidance, review, and approval process described in subsection (3) of this section. Other administrative costs incurred by the department for program implementation activities, including stewardship plan review and approval, enforcement, and any rule making, may be recovered by charging every manufacturer an annual fee calculated by dividing department administrative costs by the manufacturer's pro rata share of the Washington state photovoltaic module sales in the most recent preceding calendar year, based on best available information. The sole purpose of assessing the fees authorized in this subsection is to predictably and adequately fund the department's costs of administering the photovoltaic module recycling program.

(10) **Account.** The photovoltaic module recycling account is created in the custody of the state treasurer. All fees collected from manufacturers under this chapter must be deposited in the account. Expenditures from the account may be used only for administering this chapter. Only the director of the department or the director's designee may authorize expenditures from the account. The account is subject to the allotment procedures under chapter 43.88 RCW, but an appropriation is not required for expenditures. Funds in the account may not be diverted for any purpose or activity other than those specified in this section.

(11) **Rule making.** The department may adopt rules as necessary for the purpose of implementing, administering, and enforcing this chapter.

(12) **National program.** In lieu of preparing a stewardship plan and as provided by subsection (5) of this section, a manufacturer may participate in a national program for the convenient, safe, and environmentally sound takeback and recycling of photovoltaic modules and their components and materials, if substantially equivalent to the intent of the state program. The department may determine substantial equivalence if it determines that the national program adequately addresses and fulfills each of the elements of a stewardship plan outlined in subsection (5)(a) of this section and includes an enforcement mechanism reasonably calculated to ensure a manufacturer's compliance with the national program. Upon issuing a determination of substantial equivalence, the department must notify affected stakeholders including the manufacturer. If the national program is discontinued or the department determines the national program is no longer substantially equivalent to the state program in Washington, the department must notify the manufacturer and the manufacturer must provide a stewardship plan as described in subsection (5)(a) of this section to the department for approval within thirty days of notification.

NEW SECTION. **Sec. 13.** A new section is added to chapter 43.180 RCW to read as follows:

(1) It is the intent of the legislature to investigate methods by which the state may establish or facilitate financing models that allow electric utilities in the state to maximize federal tax incentives and monetize the depreciation of renewable energy systems and other distributed energy assets, with the goal of providing improved access to the benefits of these assets to low and moderate income households as well as broad system benefits to utility ratepayers and state taxpayers.

(2) By December 31, 2017, the commission must prepare and submit to the appropriate committees of the legislature a report that assesses financing tools or models for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources. The report must:

(a) Assess the legal, financial, and economic feasibility of one or more financing tools or models for the aggregation of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources;

(b) Consider the state and federal legal aspects of such a financing tool or model, including considerations of how to structure the role of the state or any subdivision of the state in a manner that is consistent with the Constitution of the state of Washington; and

(c) Describe any legislation that may be necessary to facilitate, implement, or create incentives for the private sector to implement such a financing tool or model within the state.

(3) Beginning July 1, 2018, the commission may implement a financing tool or model for the aggregation, by public or private entities, of federal tax incentives and other financial benefits accruing from the installation, ownership, and operation of renewable energy systems and other distributed energy resources if the commission determines that it is legally, financially, and economically feasible and that it would further the public policy goals set forth in subsection (1) of this section.

Sec. 14. RCW 82.08.962 and 2013 2nd sp.s. c 13 s 1502 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.08.963, purchasers who have paid the tax imposed by RCW 82.08.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the tax levied by RCW 82.08.020 does not apply to the sale of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor

and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The purchaser is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2) For purposes of this section and RCW 82.12.962, the following definitions apply:

(a) "Biomass energy" includes: (i) By-products of pulping and wood manufacturing process; (ii) animal waste; (iii) solid organic fuels from wood; (iv) forest or field residues; (v) wooden demolition or construction debris; (vi) food waste; (vii) liquors derived from algae and other sources; (viii) dedicated energy crops; (ix) biosolids; and (x) yard waste. "Biomass energy" does not include wood pieces that have been treated with chemical preservatives such as creosote, pentachlorophenol, or copper-chrome-arsenic; wood from old growth forests; or municipal solid waste.

(b) "Fuel cell" means an electrochemical reaction that generates electricity by combining atoms of hydrogen and oxygen in the presence of a catalyst.

(c) "Landfill gas" means biomass fuel, of the type qualified for federal tax credits under Title 26 U.S.C. Sec. 29 of the federal internal revenue code, collected from a "landfill" as defined under RCW 70.95.030.

(d)(i) "Machinery and equipment" means fixtures, devices, and support facilities that are integral and necessary to the generation of electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power.

(ii) "Machinery and equipment" does not include: (A) Hand-powered tools; (B) property with a useful life of less than one year; (C) repair parts required to restore machinery and equipment to normal working order; (D) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (E) buildings; or (F) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building.

(3)(a) Machinery and equipment is "used directly" in generating electricity by wind energy, solar energy, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas power if it provides any part of the process that captures the energy of the wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(b) Machinery and equipment is "used directly" in generating electricity by fuel cells if it provides any part of the process that captures the energy of the fuel, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems.

(4)(a) A purchaser claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by RCW 82.08.020 and all applicable local sales taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The purchaser may then apply to the department for remittance in a form and manner prescribed by the department. A purchaser may not apply for a remittance under this section more frequently than once per quarter. The purchaser must specify the amount of exempted tax claimed and the qualifying purchases for which the exemption is claimed. The purchaser must retain, in adequate detail, records to enable the department to determine whether the purchaser is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the purchaser, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying purchasers who submitted applications during the previous quarter.

(5) The exemption provided by this section expires September 30, 2017, as it applies to: (a) Machinery and equipment that is used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of

electricity; or (b) sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(6) This section expires January 1, 2020.

Sec. 15. RCW 82.08.963 and 2013 2nd sp.s. c 13 s 1602 are each amended to read as follows:

(1) The tax levied by RCW 82.08.020 does not apply to sales of machinery and equipment used directly in generating electricity or producing thermal heat using solar energy, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not more than ten kilowatts of electricity or producing not more than three million British thermal units per day and provides the seller with an exemption certificate in a form and manner prescribed by the department. The seller must retain a copy of the certificate for the seller's files. For sellers who electronically file their taxes, the department must provide a separate tax reporting line for exemption amounts claimed by a buyer under this section.

(2) For purposes of this section and RCW 82.12.963:

(a) "Machinery and equipment" means industrial fixtures, devices, and support facilities that are integral and necessary to the generation of electricity or production and use of thermal heat using solar energy;

(b) "Machinery and equipment" does not include: (i) Hand-powered tools; (ii) property with a useful life of less than one year; (iii) repair parts required to restore machinery and equipment to normal working order; (iv) replacement parts that do not increase productivity, improve efficiency, or extend the useful life of machinery and equipment; (v) buildings; or (vi) building fixtures that are not integral and necessary to the generation of electricity that are permanently affixed to and become a physical part of a building;

(c) Machinery and equipment is "used directly" in generating electricity with solar energy if it provides any part of the process that captures the energy of the sun, converts that energy to electricity, and stores, transforms, or transmits that electricity for entry into or operation in parallel with electric transmission and distribution systems; and

(d) Machinery and equipment is "used directly" in producing thermal heat with solar energy if it uses a solar collector or a solar hot water system that (i) meets the certification standards for solar collectors and solar hot water systems developed by the solar rating and certification corporation; or (ii) is determined by the Washington State University extension whether a solar collector or solar hot water system is an equivalent collector or system.

(3) The exemption provided by this section for the sales of machinery and equipment that is used directly in the generation of electricity using solar energy, or for sales of or charges made for labor or services rendered in respect to installing such machinery and equipment, expires September 30, 2017.

(4) This section expires June 30, 2018.

Sec. 16. RCW 82.12.962 and 2013 2nd sp.s. c 13 s 1505 are each amended to read as follows:

(1)(a) Except as provided in RCW 82.12.963, consumers who have paid the tax imposed by RCW 82.12.020 on machinery and equipment used directly in generating electricity using fuel cells, wind, sun, biomass energy, tidal or wave energy, geothermal resources, anaerobic digestion, technology that converts otherwise lost energy from exhaust, or landfill gas as the principal source of power, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, are eligible for an exemption as provided in this section, but only if the purchaser develops with such machinery, equipment, and labor a facility capable of generating not less than one thousand watts of electricity.

(b) Beginning on July 1, 2009, through June 30, 2011, the provisions of this chapter do not apply in respect to the use of machinery and equipment described in (a) of this subsection that are used directly in generating electricity or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment.

(c) Beginning on July 1, 2011, through January 1, 2020, the amount of the exemption under this subsection (1) is equal to seventy-five percent of the state and local sales tax paid. The consumer is eligible for an exemption under this subsection (1)(c) in the form of a remittance.

(2)(a) A person claiming an exemption in the form of a remittance under subsection (1)(c) of this section must pay the tax imposed by

RCW 82.12.020 and all applicable local use taxes imposed under the authority of chapters 82.14 and 81.104 RCW. The consumer may then apply to the department for remittance in a form and manner prescribed by the department. A consumer may not apply for a remittance under this section more frequently than once per quarter. The consumer must specify the amount of exempted tax claimed and the qualifying purchases or acquisitions for which the exemption is claimed. The consumer must retain, in adequate detail, records to enable the department to determine whether the consumer is entitled to an exemption under this section, including: Invoices; proof of tax paid; and documents describing the machinery and equipment.

(b) The department must determine eligibility under this section based on the information provided by the consumer, which is subject to audit verification by the department. The department must on a quarterly basis remit exempted amounts to qualifying consumers who submitted applications during the previous quarter.

(3) Purchases exempt under RCW 82.08.962 are also exempt from the tax imposed under RCW 82.12.020.

(4) The definitions in RCW 82.08.962 apply to this section.

(5) The exemption provided in subsection (1) of this section does not apply:

(a) To machinery and equipment used directly in the generation of electricity using solar energy and capable of generating no more than five hundred kilowatts of electricity, or to sales of or charges made for labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To any other machinery and equipment described in subsection (1)(a) of this section, or to sales of or charges made for labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after December 31, 2019.

(6) This section expires January 1, 2020.

Sec. 17. RCW 82.12.963 and 2013 2nd sp.s. c 13 s 1603 are each amended to read as follows:

(1) The provisions of this chapter do not apply with respect to machinery and equipment used directly in generating not more than ten kilowatts of electricity or producing not more than three million

British thermal units per day using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment.

(2) The definitions in RCW 82.08.963 apply to this section.

(3) The exemption provided by this section does not apply:

(a) To the use of machinery and equipment used directly in the generation of electricity using solar energy, or to the use of labor and services rendered in respect to installing such machinery and equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after September 30, 2017; and

(b) To the use of any machinery or equipment used directly in producing thermal heat using solar energy, or to the use of labor and services rendered in respect to installing such machinery or equipment, when first use within this state of such machinery and equipment, or labor and services, occurs after June 30, 2018.

(4) This section expires June 30, 2018.

NEW SECTION. **Sec. 18.** Section 12 of this act constitutes a new chapter in Title 70 RCW.

NEW SECTION. **Sec. 19.** This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and takes effect immediately.

--- END ---

Northwest Product Stewardship Council

FOR IMMEDIATE RELEASE
July 18, 2017

Contact:
Amanda Reykdal, Washington Coordinator – coordinator@productstewardship.net - (425) 445-4759

First-in-the-nation legislation requiring manufacturers to recycle used solar units signed into law

The Solar Incentives Job Bill requires manufacturers to manage and finance the safe recycling of solar units at end of life, at no cost to the owner of the product

Olympia, WA— The Solar Incentives Job Bill (ESSB 5939) was signed into law by Gov. Jay Inslee of Washington State on July 7, requiring manufacturers to finance and manage a product stewardship program that ensures used solar units are recycled. This is a significant step toward a truly sustainable and responsible solar energy industry, and the stewardship requirement is the first of its kind for solar modules in the United States.

"This legislation establishes Washington State as a leader in sustainability and stewardship of this technology," said State Rep. Norma Smith (R-Clinton), who championed the product stewardship requirement. "We included the product stewardship element in this bill as part of a comprehensive approach to solving our state's most pressing environmental issues. It would be shortsighted to introduce a bill that expands the number of solar units in our state, and not have a strategy for safe recycling when they're no longer functional."

"The Solar Incentives Job Bill sets a precedent for future solar legislation to include a recycling program," explains Heather Trim, Executive Director at Zero Waste Washington. Zero Waste Washington worked with the Northwest Product Stewardship Council in drafting policy language. "This requirement models a producer responsibility approach as a component to include as other states expand solar programs."

In Washington, the stewardship requirement is part of larger bill that incentivizes solar unit ownership and creates solar jobs locally. The stewardship requirement states that manufacturers who sell solar units in the state of Washington after July 1, 2017, are responsible for financing and providing a recycling program for their units. Manufacturers who do not provide a recycling program cannot sell solar modules after January 1, 2021. This recycling requirement covers:

- Solar modules used on or in buildings
- Freestanding off-grid power generation systems such as water pumping stations
- Electric vehicle charging stations
- Solar fencing, solar-powered signs and solar-powered street lights.

It does not include small solar-powered consumer electronics such as watches and calculators.

Smith contends that "we need to be responsible stewards for each and every one of these technologies." Solar modules contain hazardous materials, rare earth elements, and other materials that have to be recycled properly. **"**As we pursue our conservation goals, it is critical that we pay the cost of our own consumption and not leave that to another generation."

By law, the stewardship program must provide regional take back locations where solar modules can be delivered for proper recycling at no cost to the last owner. Manufacturers have the flexibility to collect discarded modules individually or collectively with other companies. The Department of Ecology will provide guidance to manufacturers on developing their programs.

New solar module recycling jobs and businesses are expected as a result of the legislation. Washington State already has job-producing stewardship laws for electronics and mercury lighting. Four counties have stewardship laws for leftover medicine.

Learn more about NWPSC's work on the NWPSC website, or contact Amanda Reykdal at (425) 445-4759.

About the Northwest Product Stewardship Council

The Northwest Product Stewardship Council (NWPSC) is a coalition of government organizations in Washington and Oregon that operates as an unincorporated association of members and is comprised of a Steering Committee, Associates and Committees. NWPSC's mission is to enhance Washington's and Oregon's reuse, recycling and waste management systems by working with the waste and recycling industry, consumers, manufacturers and others to connect producers with the costs associated with the end-of-life management of their products to provide incentives for reducing waste, increasing recyclability, and reducing the toxicity of their products.
Follow us on Twitter @StewardshipNW.

Title 10: COMMERCE AND TRADE

Chapter 221: WARRANTIES FOR SALE AND INSTALLATION OF SOLAR ENERGY EQUIPMENT

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Title 10: COMMERCE AND TRADE

Chapter 221: WARRANTIES FOR SALE AND INSTALLATION OF SOLAR ENERGY EQUIPMENT

§1491. LEGISLATIVE FINDINGS AND PURPOSE

The Legislature finds that a major detriment to the commercialization of solar energy in Maine is lack of consumer confidence in the performance and reliability of solar energy equipment. It is the purpose of this chapter, therefore, to establish a minimum warranty for the sale and installation of all solar energy equipment in Maine. [1979, c. 299, (NEW).]

SECTION HISTORY
1979, c. 299, (NEW).

§1492. DEFINITIONS

As used in this chapter, unless the context indicates otherwise, the following terms shall have the following meanings. [1979, c. 299, (NEW).]

1. **Solar energy equipment.** "Solar energy equipment" means all controls, tanks, pumps, heat exchangers, collectors and all other equipment necessary for the collection, transfer and storage of solar energy, as determined by the Governor's Energy Office. Passive solar energy systems or those systems using natural means to collect, store and transfer solar energy may not be included under this chapter.

[2011, c. 655, Pt. MM, §9 (AMD); 2011, c. 655, Pt. MM, §26 (AFF) .]

SECTION HISTORY
1979, c. 299, (NEW). 1989, c. 501, §DD29 (AMD). 2011, c. 655, Pt. MM, §9 (AMD). 2011, c. 655, Pt. MM, §26 (AFF).

§1493. EXPRESS WARRANTY

(REPEALED)

SECTION HISTORY
1979, c. 299, (NEW). 1989, c. 501, §DD30 (AMD). 2003, c. 644, §6 (RP).

§1494. CIVIL FORFEITURE; UNFAIR TRADE PRACTICES ACT VIOLATION

Any person who fails to provide the purchaser of solar energy equipment, as defined in this chapter, with a minimum warranty, as established by law, shall be deemed to have committed a civil violation for which a forfeiture of not less than $200 nor more than $500 for the first offense and not less than $500 nor more than $1,000 for each subsequent offense shall be adjudged. In addition to the civil penalty provided in this section, any violation of this chapter shall constitute a violation of Title 5, chapter 10. [1979, c. 299, (NEW).]

SECTION HISTORY
1979, c. 299, (NEW).

§1494. CIVIL FORFEITURE; UNFAIR TRADE PRACTICES ACT VIOLATION

Any person who fails to provide the purchaser of solar energy equipment, as defined in this chapter, with a minimum warranty, as established by law, shall be deemed to have committed a civil violation for which a forfeiture of not less than $200 nor more than $500 for the first offense and not less than $500 nor more than $1,000 for each subsequent offense shall be adjudged. In addition to the civil penalty provided in this section, any violation of this chapter shall constitute a violation of Title 5, chapter 10. [1979, c. 299, (NEW).]

SECTION HISTORY
1979, c. 299, (NEW).

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§3013. SOLAR ENERGY DEVICES; ORDINANCES

A municipal ordinance, bylaw or regulation adopted after September 30, 2009 that directly regulates the installation or use of solar energy devices on residential property must comply with the requirements of Title 33, chapter 28-A. For the purposes of this section, "solar energy device" has the same meaning as in Title 33, section 1421, subsection 5. [2009, c. 273, §1 (NEW).]

§3013. Ordinances regarding residency restrictions for sex offenders

(As enacted by PL 2009, c. 351, §1 is REALLOCATED TO TITLE 30-A, SECTION 3014)

SECTION HISTORY
RR 2009, c. 1, §21 (RAL). 2009, c. 273, §1 (NEW). 2009, c. 351, §1 (NEW).

Title 33: PROPERTY

Chapter 28: SOLAR EASEMENTS

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Title 33: PROPERTY

Chapter 28: SOLAR EASEMENTS

§1401. ESTABLISHMENT OF SOLAR EASEMENTS

Any easement obtained for the purpose of ensuring access to direct sunlight must be created in writing and must be in interest in real property that may be acquired and transferred and shall be recorded and indexed in the same way as other conveyances of real property interests. Solar easements must be appurtenant and run with the land benefited and burdened, and are subject to court decreed abandonment and other limitations provided by law. [1981, c. 341, (NEW).]

SECTION HISTORY
1981, c. 341, (NEW).

§1402. CONTENTS OF SOLAR EASEMENTS

1. Instrument creating easement; description; terms. Any instrument creating a solar easement may include, but the contents shall not be limited to, either or both of the following:

A. A definite and certain description of the space affected by the easement; [1981, c. 341, (NEW).]

B. Any terms or conditions, or both, under which the solar easement is granted or will be terminated. [1981, c. 341, (NEW).]

[1981, c. 341, (NEW) .]

2. Map. The easement may contain a map showing the affected properties and the area protected by the easement. In the case of an inconsistency between the written easement and the map, the written easement shall control.

[1981, c. 341, (NEW) .]

SECTION HISTORY
1981, c. 341, (NEW).

Title 33: PROPERTY

Chapter 28-A: SOLAR RIGHTS

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Title 33: PROPERTY

Chapter 28-A: SOLAR RIGHTS

§1421. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings. [2009, c. 273, §2 (NEW).]

1. **Legal instrument.** "Legal instrument" includes:

A. Municipal ordinances, bylaws or regulations that directly regulate the installation or use of solar energy devices on residential property; [2009, c. 273, §2 (NEW).]

B. Rules, bylaws or regulations of an association of property owners, including but not limited to a homeowners association, unit owners association or condominium owners association; and [2009, c. 273, §2 (NEW).]

C. Deed restrictions, restrictive covenants, declarations, contracts or similar binding agreements. [2009, c. 273, §2 (NEW).]

[2009, c. 273, §2 (NEW) .]

2. **Residential property.** "Residential property" means real property located in this State that is used for residential dwelling purposes.

[2009, c. 273, §2 (NEW) .]

3. **Solar clothes-drying device.** "Solar clothes-drying device" means a clothes line, drying rack or other equipment used for solar drying of clothing.

[2009, c. 273, §2 (NEW) .]

4. **Solar collector.** "Solar collector" means a device, structure or part of a device or structure that is designed and used to transform solar energy into thermal, chemical or electrical energy to meet the water heating, space heating, space cooling or electricity generation requirements of one residential dwelling.

[2009, c. 273, §2 (NEW) .]

5. **Solar energy device.** "Solar energy device" means a solar collector or solar clothes-drying device.

[2009, c. 273, §2 (NEW) .]

SECTION HISTORY
2009, c. 273, §2 (NEW).

§1422. POLICY

It is the policy of the State to promote the use of solar energy and to avoid unnecessary obstacles to the use of solar energy devices. [2009, c. 273, §2 (NEW).]

SECTION HISTORY
2009, c. 273, §2 (NEW).

§1423. USE AND INSTALLATION OF SOLAR ENERGY DEVICES

1. **Application.** This section applies to a legal instrument adopted or created after September 30, 2009 that defines or limits the rights or privileges of owners or renters with respect to the use of residential property.

[2009, c. 273, §2 (NEW) .]

2. **Right to install and use solar energy devices.** Except as provided in subsections 3 and 4, a legal instrument subject to this section may not prohibit a person from installing or using:

A. A solar energy device on residential property owned by that person; or [2009, c. 273, §2 (NEW).]

B. A solar clothes-drying device on residential property leased or rented by that person. [2009, c. 273, §2 (NEW).]

[2009, c. 273, §2 (NEW) .]

3. **Exception.** A legal instrument subject to this section may prohibit the installation and use of solar energy devices on residential property in common ownership with 3rd parties or common elements of a condominium.

[2009, c. 273, §2 (NEW) .]

4. **Reasonable restrictions.** A legal instrument subject to this section may include reasonable restrictions on the installation and use of a solar energy device. For the purposes of this section, a reasonable restriction is any restriction that is necessary to protect:

A. Public health and safety, including but not limited to ensuring safe access to and rapid evacuation of buildings; [2009, c. 273, §2 (NEW).]

B. Buildings from damage; [2009, c. 273, §2 (NEW).]

C. Historic or aesthetic values, when an alternative of reasonably comparable cost and convenience is available; or [2009, c. 273, §2 (NEW).]

D. Shorelands under shoreland zoning provisions pursuant to Title 38, chapter 3, subchapter 1, article 2-B. [2009, c. 273, §2 (NEW).]

[2009, c. 273, §2 (NEW) .]

SECTION HISTORY
2009, c. 273, §2 (NEW).

§1424. LIMITATION

This chapter does not supersede any existing authority of any entity to adopt and enforce any laws, rules or regulations on any matter other than the installation and use of solar energy devices on residential property. [2009, c. 273, §2 (NEW).]

SECTION HISTORY
2009, c. 273, §2 (NEW).

Title 35-A: PUBLIC UTILITIES

Chapter 34-B: The maine solar energy act

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Title 35-A: PUBLIC UTILITIES

Chapter 34-B: The maine solar energy act

§3471. SHORT TITLE

This chapter may be known and cited as "the Maine Solar Energy Act." [2013, c. 562, §1 (NEW).]

SECTION HISTORY
2013, c. 562, §1 (NEW).

§3472. LEGISLATIVE FINDINGS

1. **Public interest.** The Legislature finds that it is in the public interest to develop renewable energy resources, including solar energy, in a manner that protects and improves the health and well-being of the citizens and natural environment of the State while also providing economic benefits to communities, ratepayers and the overall economy of the State.

[2013, c. 562, §1 (NEW) .]

2. **Contribution of solar energy development.** The Legislature finds that the solar energy resources of the State constitute a valuable indigenous and renewable energy resource and that solar energy development, which is unique in its benefits to and impacts on the climate and the natural environment, can make a contribution to the general welfare of the citizens of the State for the following reasons:

A. Solar energy is an energy resource that does not rely on fossil fuel combustion and therefore it can displace energy provided by that source and reduce air pollution and greenhouse gas emissions; and [2013, c. 562, §1 (NEW).]

B. There is an inexhaustible supply of solar energy throughout the State that should be used cost-effectively for heat and electricity using current technology. [2013, c. 562, §1 (NEW).]

[2013, c. 562, §1 (NEW) .]

SECTION HISTORY
2013, c. 562, §1 (NEW).

§3473. SPECIFIC MEASURES TO SUPPORT SOLAR ENERGY

1. **Monitoring.** The commission shall monitor, to the extent possible through readily available information, the level of solar energy development in the State in relation to the goals in section 3474, basic trends in solar energy markets and the likely relative costs and benefits for ratepayers from solar energy development, including but not limited to minimizing peak load on transmission and distribution systems and the energy market price of electricity and natural gas during the peak hours.

[2013, c. 562, §1 (NEW) .]

2. **Economic development.** Within existing programs and resources, the State, including the Small Enterprise Growth Program, as established in Title 10, chapter 13; the Maine Technology Institute, as established in Title 5, section 12004-G, subsection 33-D; the Maine Rural Development Authority, as

established in Title 5, section 12004-F, subsection 18; the Finance Authority of Maine, as established in Title 10, chapter 110; and the Department of Economic and Community Development, shall seek opportunities to promote investment in solar energy development, generation and manufacturing.

[2013, c. 562, §1 (NEW) .]

SECTION HISTORY
2013, c. 562, §1 (NEW).

§3474. DETERMINATION OF PUBLIC POLICY; STATE SOLAR ENERGY GENERATION GOALS

1. Encouragement of solar energy-related development. It is the policy of the State in furtherance of the goals established in subsection 2 to encourage the attraction of appropriately sited development related to solar energy generation, including any additional transmission, distribution and other energy infrastructure needed to transport additional solar energy to market, consistent with all state environmental standards; the permitting and financing of solar energy projects; appropriate utility rate structures; and the siting, permitting, financing and construction of solar energy research and manufacturing facilities for the benefit of all ratepayers.

[2013, c. 562, §1 (NEW) .]

2. State solar energy generation goals. When encouraging the development of solar energy generation, the State shall pursue cost-effective developments, policies and programs that advance the following goals:

A. Ensuring that solar electricity generation, along with electricity generation from other renewable energy technologies, meaningfully contributes to the generation capacity of the State through increasing private investment in solar capacity in the State; [2013, c. 562, §1 (NEW).]

B. Ensuring that the production of thermal energy from solar technologies meaningfully contributes to reducing the State's dependence on imported energy sources; [2013, c. 562, §1 (NEW).]

C. Ensuring that the production of electricity from solar energy meaningfully contributes to mitigating more costly transmission and distribution investments otherwise needed for system reliability; [2013, c. 562, §1 (NEW).]

D. Ensuring that solar energy provides energy that benefits all ratepayers regardless of income level; [2013, c. 562, §1 (NEW).]

E. Increasing the number of businesses and residences using solar technology as an energy resource; and [2013, c. 562, §1 (NEW).]

F. Increasing the State's workforce engaged in the manufacturing and installation of solar technology. [2013, c. 562, §1 (NEW).]

[2013, c. 562, §1 (NEW) .]

SECTION HISTORY
2013, c. 562, §1 (NEW).

Title 35-A: PUBLIC UTILITIES

Chapter 97: EFFICIENCY MAINE TRUST ACT

Table of Contents

§10101. SHORT TITLE

This chapter may be known and cited as "the Efficiency Maine Trust Act." [2009, c. 372, Pt. B, §3 (NEW).]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10102. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings. [2009, c. 372, Pt. B, §3 (NEW).]

1. **Administrative costs.** "Administrative costs" means costs of the trust in carrying out its responsibilities under this chapter, including, but not limited to, costs of:

A. Securing necessary expertise; [2009, c. 372, Pt. B, §3 (NEW).]

B. Contracting for program delivery; and [2009, c. 372, Pt. B, §3 (NEW).]

C. Monitoring and enforcing contractual obligations. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Administration fund.** "Administration fund" means the administration fund established pursuant to section 10103, subsection 5.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Alternative energy resources.** "Alternative energy resources" means nonfossil fuel energy resources, including, but not limited to, biomass, wood, wood pellets and solar, wind or geothermal resources.

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Board.** "Board" means the Efficiency Maine Trust Board.

[2009, c. 372, Pt. B, §3 (NEW) .]

5. **Director.** "Director" means the Director of the Efficiency Maine Trust.

[2009, c. 372, Pt. B, §3 (NEW) .]

6. **Forward capacity market.** "Forward capacity market" means the program established by the regional transmission organization that is in effect on the effective date of this subsection and compensates providers of electrical capacity with payments for the availability or reduction of capacity as determined by the regional transmission organization.

[2009, c. 372, Pt. B, §3 (NEW) .]

7. **Program funds.** "Program funds" means any of the funds established pursuant to this chapter, other than the administration fund, to fund Efficiency Maine Trust programs.

[2009, c. 372, Pt. B, §3 (NEW) .]

8. **Regional transmission organization.** "Regional transmission organization" means the independent systems operator that administers and oversees the wholesale electricity markets in which the State participates.

[2009, c. 372, Pt. B, §3 (NEW) .]

9. **Triennial plan.** "Triennial plan" means the plan required under section 10104, subsection 4.

[2009, c. 372, Pt. B, §3 (NEW) .]

10. **Trust.** "Trust" means the Efficiency Maine Trust established in section 10103.

[2009, c. 372, Pt. B, §3 (NEW) .]

11. **Trustee.** "Trustee" means a member of the board.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10103. EFFICIENCY MAINE TRUST

1. **Establishment; purpose.** The Efficiency Maine Trust is established for the purposes of developing, planning, coordinating and implementing energy efficiency and alternative energy resources programs in the State to:

A. Provide uniform, integrated planning, program design and administration of programs pursuant to this chapter and any other provisions of law administered by the trust; [2009, c. 372, Pt. B, §3 (NEW).]

B. Reduce energy costs and improve security of the state and local economies. The trust shall administer cost-effective energy and energy efficiency programs consistent with applicable requirements of this chapter and other law to help individuals and businesses meet their energy needs at the lowest cost and generally to improve the economic security of the State by:

(1) Reducing the cost of energy to residents of the State;

(2) Maximizing the use of cost-effective weatherization and energy efficiency measures, including measures that improve the energy efficiency of energy-using systems, such as heating and cooling systems and system upgrades to energy efficient systems that rely on affordable energy resources;

(3) Reducing economic insecurity from the inefficient use of fossil fuels;

(4) Increasing new jobs and business development to deliver affordable energy and energy efficiency products and services;

(5) Enhancing heating improvements for households of all income levels through implementation of cost-effective efficiency programs, including weatherization programs and affordable heating systems, that will produce comfort, improve indoor air quality, reduce energy costs for those households and reduce the need for future fuel assistance;

(6) Simplifying and enhancing consumer access to technical assistance and financial incentives relating to energy efficiency and the use of alternative energy resources by merging or coordinating dispersed programs under a single administrative unit possessing independent management and expertise; and

(7) Using cost-effective energy and energy efficiency investments to reduce greenhouse gas emissions; [2013, c. 369, Pt. A, §3 (RPR).]

C. Ensure that all expenditures of the trust are cost-effective in terms of avoided energy costs as provided by rules adopted pursuant to section 10105, subsection 5, paragraph A; and [2009, c. 518, §7 (AMD).]

D. Actively promote investment in cost-effective energy and energy efficiency measures and systems that use energy resources that reduce overall energy costs for consumers in the State. [2013, c. 369, Pt. A, §4 (AMD).]

Nothing in this chapter is intended or may be construed to constitute a mandate that would prevent the sale of carbon emission reductions into a voluntary carbon market.

[2013, c. 369, Pt. A, §§3, 4 (AMD) .]

2. **Governance; board.** The trust is created as a body corporate and politic and a public instrumentality of the State and is governed by the independent Efficiency Maine Trust Board, established in Title 5, section 12004-G, subsection 10-C, in accordance with this section.

A. The board consists of the following 9 voting members:

(1) The Director of the Governor's Energy Office;

(2) The director of the Maine State Housing Authority; and

(3) Seven members appointed by the Governor, reviewed by the joint standing committee of the Legislature having jurisdiction over energy matters and approved by the Senate. Among these 7 members must be persons who adequately represent the interests of commercial energy consumers, industrial energy consumers, small business energy consumers, residential energy consumers and low-income energy consumers; among these members must be persons with knowledge of and experience in financial matters and consumer advocacy and who possess substantial management expertise or knowledge of or experience with conservation fund programs, carbon reduction programs or energy efficiency or climate change policy. The requirements of this subparagraph may be met through the appointment of one or more persons who satisfy more than one of the requirements, as long as at any one time the 7 members include among them members who adequately represent the identified interests and who possess the required knowledge, expertise and experience.

Appointed trustees serve 3-year terms. If an appointed trustee is unable to complete the term, the Governor shall appoint a replacement for the remainder of the unexpired term. [2013, c. 424, Pt. B, §14 (RPR).]

B. The board shall elect a chair, a vice-chair, a secretary and a treasurer from among the members. Each officer serves for a one-year term and is eligible for reelection. [2009, c. 372, Pt. B, §3 (NEW).]

C. A majority of the trustees constitutes a quorum. [2009, c. 372, Pt. B, §3 (NEW).]

D. The board may elect an executive committee of not fewer than 5 trustees who, in intervals between meetings of the board, may transact such business of the trust as the board may authorize from time to time. [2009, c. 372, Pt. B, §3 (NEW).]

[2011, c. 655, Pt. MM, §18 (AMD); 2011, c. 655, Pt. MM, §26 (AFF); 2013, c. 424, Pt. B, §14 (AMD) .]

3. **Administration of trust; director.** The board shall appoint, using a full and competitive search process, a qualified full-time director of the trust. The Director of the Efficiency Maine Trust serves at the pleasure of the board. The director must have demonstrated experience in the planning, design or delivery of energy efficiency programs or the management of organizations that plan, design or deliver those programs. The board shall establish the rate and amount of compensation of the director and all other employees of the trust. The director:

A. Serves as the president of the trust and as the liaison between the board and any committee of the Legislature having jurisdiction over energy matters; [2009, c. 372, Pt. B, §3 (NEW).]

B. Is responsible for:

(1) Establishing an office for the trust;

(2) Hiring and organizing staff for the trust and determining their qualifications and duties; and

(3) Managing the trust's programs, services and staff and performing other duties as the board considers appropriate; and [2009, c. 372, Pt. B, §3 (NEW).]

C. May delegate to employees of the trust any powers and duties that the director considers proper. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Program funding.** The board may apply for and receive grants from state, federal and private sources for deposit into appropriate program funds, including funds for both residential and business programs. The board may deposit in appropriate program funds the proceeds of any bonds issued for the purposes of programs administered by the trust. The board may receive and shall deposit in appropriate program funds revenue resulting from any forward capacity market or other capacity payments from the regional transmission organization that may be attributable to those projects funded by those funds. The board shall deposit into appropriate program funds revenue transferred to the trust from the energy infrastructure benefits fund pursuant to Title 5, section 282, subsection 9 for use in accordance with subsection 4-A. The board may also deposit any grants or other funds received by or from any entity with which the trust has an agreement or contract pursuant to this chapter if the board determines that receipt of those funds is consistent with the purposes of this chapter.

[2013, c. 369, Pt. A, §5 (AMD) .]

4-A. **Use of revenues from the energy infrastructure benefits fund.** The trust shall use revenues transferred to the trust from the energy infrastructure benefits fund pursuant to Title 5, section 282, subsection 9:

A. To improve the State's economy by pursuing lower energy costs for people, communities and businesses in a manner that will enhance the environment of the State in accordance with the triennial plan. In the expenditure of funds pursuant to this paragraph, the trust may provide grants, loans, programs and incentives; and [2013, c. 369, Pt. A, §6 (RPR).]

B. To compensate public members of the Interagency Review Panel pursuant to Title 5, section 12004-G, subsection 30-D. [2009, c. 655, Pt. B, §4 (NEW).]

As part of the annual report required under section 10104, subsection 5, the director shall report on the use of revenues from the energy infrastructure benefits fund. The report must document the revenues transferred from the energy infrastructure benefits fund to the trust during the most recently completed fiscal year and the current fiscal year and amounts and uses of money expended by the trust in accordance with this subsection during the most recently completed and the current fiscal year.

[2013, c. 369, Pt. A, §6 (AMD) .]

5. **Administration fund.** The board shall establish an administration fund to be used solely to defray administrative costs. The trust may annually deposit funds authorized to be used for administrative costs under this chapter into the administration fund. Any interest on funds in the administration fund must be credited to the administration fund and any funds unspent in any fiscal year must either remain in the administration fund to be used to defray administrative costs or be transferred to program funds.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 518, §7 (AMD). 2009, c. 655, Pt. B, §§3, 4 (AMD). 2011, c. 637, §2 (AMD). 2011, c. 655, Pt. MM, §18 (AMD). 2011, c. 655, Pt. MM, §26 (AFF). 2013, c. 369, Pt. A, §§3-6 (AMD). 2013, c. 424, Pt. B, §14 (AMD).

§10104. DUTIES

1. **Generally.** In accordance with this section and other applicable law, the trust administers and disburses funds and coordinates programs to promote reduced energy costs, energy efficiency and increased use of alternative energy resources in the State. The trust is responsible for accounting for, evaluating and monitoring all activities of the trust and all programs funded in whole or in part by the trust.

[2013, c. 369, Pt. A, §7 (AMD) .]

2. **Programs.** The trust shall plan, design and administer programs to ensure that funds are expended for uses consistent with applicable state and federal law and so that the following principles of administration are met:

A. Programs are consumer-oriented such that the processes for participation and program design are targeted to serve the multiple needs of energy consumers in this State; [2009, c. 372, Pt. B, §3 (NEW).]

B. The effectiveness of programs is maximized by building up and centralizing expertise, addressing conflicts of interest, mitigating the influence of politics, promoting flexible, timely program management and providing a champion for funding cost-effective energy and energy efficiency programs; [2013, c. 369, Pt. A, §8 (AMD).]

C. The efficiency with which programs are planned, designed, overseen and delivered is maximized; and [2009, c. 372, Pt. B, §3 (NEW).]

D. Sufficient checks and balances are provided to ensure consistency with public policy and accountability for meeting the principles set out in paragraphs A to C so that energy efficiency programs in the State are sustainable for the long term. [2009, c. 372, Pt. B, §3 (NEW).]

[2013, c. 369, Pt. A, §8 (AMD) .]

3. **Measures of performance.** The trust shall develop quantifiable measures of performance for all programs it administers and to which it will hold accountable all recipients of funding from the trust and recipients of funds used to deliver energy and energy efficiency and weatherization programs administered or funded by the trust. Such measures may include, but are not limited to, reduced energy consumption, increased use of alternative energy resources, reduced heating costs, reduced capacity demand for natural gas, electricity and fossil fuels, reduced carbon dioxide emissions, program and overhead costs and cost-effectiveness, the number of new jobs created by the award of trust funds, the number of energy efficiency trainings or certification courses completed and the amount of sales generated.

[2013, c. 369, Pt. A, §9 (AMD) .]

4. **Triennial plan.** The board shall vote on a detailed, triennial, energy efficiency, alternative energy resources and conservation plan that includes the quantifiable measures of performance developed under subsection 3 and make a full report of the vote to the commission in accordance with this subsection. The triennial plan must provide integrated planning, program design and implementation strategies for all energy efficiency, alternative energy resources and conservation programs administered by the trust, including but not limited to the electric efficiency and conservation programs under section 10110, the natural gas efficiency and conservation programs under section 10111, the Regional Greenhouse Gas Initiative Trust Fund under section 10109, the Heating Fuels Efficiency and Weatherization Fund under section 10119 and any state or federal funds or publicly directed funds accepted by or allocated to the trust for the purposes of this chapter. The triennial plan must include provisions for the application of appropriate program funds to support workforce development efforts that are consistent with and promote the purposes of the trust. Beginning January 1, 2011, the triennial plan must specify the appropriate participation of the State in national and regional carbon markets. The plan must be consistent with the comprehensive state energy plan pursuant to Title 2, section 9, subsection 3, paragraph C.

A. The triennial plan must be developed by the trust, in consultation with entities and agencies engaged in delivering efficiency programs in the State, to authorize and govern or coordinate implementation of energy efficiency and weatherization programs in the State. The triennial plan must identify all achievable cost-effective energy efficiency savings and related programs that could be implemented pursuant to sections 10110 and 10111, the costs and benefits of such programs and the basis and support for such identified costs and benefits. The trust shall conduct an evaluation of all cost-effective potential for electrical and natural gas energy efficiency savings in the State at least once every 5 years.

(1) Transmission and distribution utilities and natural gas utilities shall furnish data to the trust that the trust requests under this subsection to develop and implement the triennial plan or conduct the evaluation of all cost-effective potential for electrical and natural gas energy efficiency savings subject to such confidential treatment as a utility may request and the board determines appropriate pursuant to section 10106. The costs of providing the data are deemed reasonable and prudent expenses of the utilities and are recoverable in rates. [2013, c. 369, Pt. A, §10 (AMD).]

B. In developing the triennial plan, the staff of the trust shall consult the board and provide the opportunity for the board to provide input on drafts of the plan. [2009, c. 372, Pt. B, §3 (NEW).]

B-1. In developing the triennial plan, the trust shall provide the joint standing committee of the Legislature having jurisdiction over energy matters an opportunity to provide input on the plan, which may occur at the same time the trust consults with other entities in the development of the plan. [2011, c. 637, §3 (NEW).]

C. The board shall review and approve the triennial plan by affirmative vote of 2/3 of the trustees upon a finding that the plan is consistent with the statutory authority for each source of funds that will be used to implement the plan, advances the state energy efficiency targets in paragraph F and reflects the best practices of program administration under subsection 2. The plan must include, but is not limited to, efficiency and conservation program budget allocations, objectives, targets, measures of performance, program designs, program implementation strategies, timelines and other relevant information. [2013, c. 369, Pt. A, §11 (AMD).]

D. Prior to submission of the triennial plan to the commission, the trust shall offer to provide a detailed briefing on the draft plan to the joint standing committee of the Legislature having jurisdiction over energy matters and, at the request of the committee, shall provide such a briefing and opportunity for input from the committee. After providing such opportunity for input and making any changes as a result of any input received, the board shall deliver the plan to the commission for its review and approval. The commission shall open an adjudicatory proceeding and issue an order either approving the plan and issuing the appropriate orders to transmission and distribution utilities and gas utilities or rejecting the plan and stating the reasons for the rejection. The commission shall reject elements of the plan that propose to use funds generated pursuant to sections 3210-C, 10110, 10111 or 10119 if the plan fails to

reasonably explain how these elements of the program would achieve the objectives and implementation requirements of the programs established under those sections or the measures of performance under subsection 3. Funds generated under these statutory authorities may not be used pursuant to the triennial plan unless those elements of the plan proposing to use the funds have been approved by the commission. The commission shall approve all elements of the triennial plan it determines to be cost-effective, reliable and achievable and shall incorporate into gas utility and transmission and distribution rates sufficient revenue to provide for the procurement of energy efficiency resources identified within the plan pursuant to section 10110, subsection 4-A and section 10111, subsection 2. The commission shall approve or reject the entire plan or elements of the plan within 120 days of its delivery to the commission. The board, within 30 days of final commission approval of its plan, shall submit the plan to the joint standing committee of the Legislature having jurisdiction over energy matters together with any explanatory or other supporting material as the committee may request and, at the request of the committee, shall provide a detailed briefing on the final plan. After receipt of the plan, the joint standing committee of the Legislature having jurisdiction over energy matters may submit legislation relating to the plan. [2013, c. 369, Pt. A, §12 (AMD).]

E. The trust shall determine the period to be covered by the triennial plan except that the period of the plan may not interfere with the delivery of any existing contracts to provide energy efficiency services that were previously procured pursuant to efficiency and conservation programs administered by the commission. [2009, c. 372, Pt. B, §3 (NEW).]

F. It is an objective of the triennial plan to design, coordinate and integrate sustained energy efficiency and weatherization programs that are available to all energy consumers in the State and to users of all fuel types. The plan must set forth the costs and benefits of energy efficiency programs that advance the following goals, and funding necessary to meet those goals:

(1) Reducing energy costs, including residential heating costs;

(2) Weatherizing substantially all homes whose owners or occupants are willing to participate in and share the costs of cost-effective home weatherization to a minimum standard of weatherization, as defined by the trust, by 2030;

(3) Reducing peak-load demand for electricity through trust programs by 300 megawatts by 2020;

(4) By 2020, achieving electricity and natural gas program savings of at least 20% and heating fuel savings of at least 20%, as defined in and determined pursuant to the measures of performance approved by the commission under section 10120;

(5) Creating stable private sector jobs providing alternative energy and energy efficiency products and services in the State by 2020; and

(6) Reducing greenhouse gas emissions from the heating and cooling of buildings in the State by amounts consistent with the State's goals established in Title 38, section 576.

The trust shall preserve when possible and appropriate the opportunity for carbon emission reductions to be monetized and sold into a voluntary carbon market. Any program of the trust that supports weatherization of buildings must be voluntary and may not constitute a mandate that would prevent the sale of emission reductions generated through weatherization measures into a voluntary carbon market.

Except when specifically provided in the individual goals under this paragraph, the trust may consider expected savings from market effects not attributable to the trust as well as efforts by other organizations, including but not limited to federally funded low-income weatherization programs.

As used in this paragraph, "heating fuel" means liquefied petroleum gas, kerosene or #2 heating oil, but does not include fuels when used for industrial or manufacturing processes. [2013, c. 369, Pt. A, §13 (RPR).]

[2013, c. 369, Pt. A, §§10-13 (AMD) .]

5. **Report.** The trust shall report by December 1st of each year to the commission and the joint standing committee of the Legislature having jurisdiction over energy matters. The report must include:

A. A description of actions taken by the trust pursuant to this section, including descriptions of all energy efficiency, weatherization and conservation programs implemented during the prior 12 months and all programs that the trust plans to implement during the next 12 months, a description of how the trust determines the cost-effectiveness of each program and its assessment of the cost-effectiveness of programs implemented during the prior 12 months; [2009, c. 372, Pt. B, §3 (NEW).]

B. An accounting of:

(1) Assessments made on each transmission and distribution utility pursuant to section 10110 during the prior 12 months and projected assessments during the next 12 months and total deposits into and expenditures from the program fund during the prior 12 months and projected deposits into and expenditures from the program funds during the next 12 months;

(2) Assessments made pursuant to section 10111 during the prior 12 months and projected assessments during the next 12 months and total deposits into and expenditures from the natural gas conservation fund during the prior 12 months and projected deposits into and expenditures from the natural gas conservation fund during the next 12 months;

(3) Any heating fuel assessments made for the purposes of section 10119 during the prior 12 months and projected assessments during the next 12 months and total deposits into and expenditures from the Heating Fuels Efficiency and Weatherization Fund during the prior 12 months and projected deposits into and expenditures from the Heating Fuels Efficiency and Weatherization Fund during the next 12 months;

(4) Total funds received and expended by the State on energy efficiency and weatherization pursuant to the Weatherization Assistance for Low-income Persons Program of the United States Department of Energy and the Low-income Home Energy Assistance Program of the United States Department of Health and Human Services;

(5) The amount and source of any grants or funds deposited in the program fund pursuant to section 10110 during the previous 12 months and the projected amount and source of any such funds during the next 12 months; and

(6) Total deposits into and expenditures from the conservation administration fund under section 10110 during the prior 12 months and projected deposits into and expenditures from the conservation administration fund during the next 12 months; [2009, c. 372, Pt. B, §3 (NEW).]

C. Any recommendations for changes to the laws relating to energy conservation; and [2009, c. 372, Pt. B, §3 (NEW).]

D. The performance of the trust and individual programs and program delivery agents or service providers in meeting the objectives, targets and measures of performance approved by the commission and contained in the triennial plan. [2009, c. 372, Pt. B, §3 (NEW).]

The report must be approved by the board before the report is presented to the commission and the joint standing committee of the Legislature having jurisdiction over energy matters.

[2009, c. 372, Pt. B, §3 (NEW) .]

6. **Updated plans.** Within 30 days of completion of the annual report under subsection 5, the director shall submit to the board an annual update plan describing any significant changes to the triennial plan under subsection 4 related to program budget allocations, goals, targets, measures of performance, program designs, implementation strategies, timelines and other relevant information for the year ahead for all funds administered and managed by the trust. The director or any contractor, grantee or agency delivering programs

may not execute any significant changes until the changes are approved by the board and, in the case of significant changes to programs using funds generated by assessments under this chapter, until the changes are also approved by the commission using the same standard as for the triennial plan.

All annual update plans must be presented to the commission and the joint standing committee of the Legislature having jurisdiction over energy matters.

[2009, c. 372, Pt. B, §3 (NEW) .]

7. **Certification.** The board shall by rule establish certification standards for energy auditors, installers of energy efficiency measures or other service providers that provide services under programs administered by the trust. Rules adopted under this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

8. **Approval of Maine State Housing Authority plans.** After July 1, 2010, the Maine State Housing Authority, prior to applying for federal funds on behalf of the State pursuant to Title 30-A, section 4741, subsection 15 for weatherization, energy conservation and fuel assistance pursuant to the Weatherization Assistance for Low-income Persons Program administered through the United States Department of Energy and the Low-income Home Energy Assistance Program administered through the United States Department of Health and Human Services, shall submit to the board for its review and input the authority's implementation plans for the use of such funds. The plans must provide for coordination by the Maine State Housing Authority in its use of such funds with the programs administered by the trust under this chapter. The Maine State Housing Authority shall include in its plans any recommendations of the board to the extent the recommendations are consistent with the applicable federal guidelines governing the use of the funds.

[2009, c. 372, Pt. B, §3 (NEW) .]

9. **Coordination with other entities.** Consistent with the requirements of this chapter and other applicable laws, the board shall coordinate with the activities and programs of state agencies and authorities that relate to the purposes of this chapter in order to align such activities and programs with the plans and programs of the trust. For purposes of this subsection, activities and programs of state agencies and authorities that relate to the purposes of this chapter include but are not limited to energy efficiency programs relating to state facilities administered by the Department of Administrative and Financial Services, Bureau of General Services, the adoption, amendment and maintenance of the Maine Uniform Building and Energy Code by the Technical Building Codes and Standards Board, established in Title 5, section 12004-G, subsection 5-A within the Department of Public Safety, energy efficiency or green energy workforce development activities of the Department of Labor or the State Workforce Board and energy efficiency and weatherization programs administered by the Maine State Housing Authority.

[2017, c. 110, §34 (AMD) .]

10. **Independent analysis of programs.** The trust shall arrange for an independent evaluation of each major program implemented under this section. Each major program must be evaluated at least once every 5 years. The evaluation must include an accounting audit of the program and an evaluation of the program's effectiveness in meeting the goals of this section. The evaluations must be conducted by a competent professional with expertise in energy efficiency matters, including the management of cost-effective energy efficiency programs. The trust shall include the results of all evaluations conducted under this subsection in the annual report submitted pursuant to subsection 5. For purposes of this subsection, "major program" means a program with an annual budget of more than $500,000.

[2009, c. 372, Pt. B, §3 (NEW) .]

11. **Other duties.** The trust shall do all things necessary or convenient to carry out the lawful purposes of the trust.

[2009, c. 372, Pt. B, §3 (NEW) .]

12. **Budget transparency.** The trust shall provide on January 30th and July 30th of each year to the joint standing committee of the Legislature having jurisdiction over energy matters a report that includes the trust's revenues and program expenses for the current fiscal year and program budgets for the next fiscal year for all the trust's funds and programs, whether or not subject to legislative allocation. The report must indicate any significant departures from the triennial plan approved pursuant to subsection 4 or an updated plan approved pursuant to subsection 6. After receiving a report, the joint standing committee of the Legislature having jurisdiction over energy matters may report out legislation relating to the trust. In accordance with applicable provisions of Title 5, chapter 149, the trust shall also prepare and submit to the State Budget Officer for inclusion in the budget of the State Government the amount of any funds administered by the trust that require legislative allocation in the budget. The joint standing committee of the Legislature having jurisdiction over energy matters shall make recommendations to the joint standing committee of the Legislature having jurisdiction over appropriations and financial affairs with regard to any proposed allocation of the trust's funds in any budget legislation. Within 30 days after enactment of legislation that includes an allocation of funds that affects the trust's triennial plan, the trust shall make any necessary adjustments to the triennial plan.

[2011, c. 637, §4 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 518, §8 (AMD). 2011, c. 627, §5 (AMD). 2011, c. 637, §§3, 4 (AMD). 2013, c. 369, Pt. A, §§7-13 (AMD). 2017, c. 110, §34 (AMD).

§10105. POWERS, DUTIES AND LIMITATIONS

1. **Funds.** The trust shall administer programs and funds in accordance with this chapter and other applicable laws.

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Efficiency Maine projects; bonds.** The board shall propose, develop and approve revenue bond projects as Efficiency Maine projects under Title 10, section 963-A, subsection 10-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Bylaws.** The trust shall adopt bylaws, through the board, consistent with this section for the governance of its affairs.

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Purchasing agent rules.** Notwithstanding Title 5, section 1831, the trust is not subject to rules adopted by the State Purchasing Agent in selecting service providers pursuant to this chapter. The trust shall consider delivery of programs by means of contracts with service providers that participate in competitive bid processes for providing services within individual market segments or for particular end uses.

[2009, c. 372, Pt. B, §3 (NEW) .]

5. **Rules.** The board shall adopt rules for establishing and administering the trust and its programs. These rules must include:

A. Provisions for the expenditure of trust funds, including, but not limited to, the development of program budgets, criteria for energy efficiency and conservation programs and other consumer benefit programs, the process for project selection and approval, minimum requirements for project monitoring and verification and the cost-effectiveness tests to be used for measuring and comparing program benefits and costs; and [2009, c. 372, Pt. B, §3 (NEW).]

B. Provisions for the independent evaluation of program expenditures to ensure cost-effectiveness of projects to improve energy efficiency or to reduce greenhouse gases. [2009, c. 372, Pt. B, §3 (NEW).]

Rules adopted pursuant to this subsection are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

6. **Self-dealing prohibited.** In the operation or dissolution of the trust, no part of the net earnings of the trust may benefit any trustee, officer or employee except that the trust may pay reasonable compensation for services rendered and otherwise hold, manage and dispose of its property in furtherance of the purposes of the trust.

[2009, c. 372, Pt. B, §3 (NEW) .]

7. **Recommendations; advisory groups.** The trust may make recommendations to the Governor, the Legislature and other public officials regarding energy efficiency, weatherization and renewable energy programs. The trust may establish technical advisory groups as needed for the purposes of gathering technical knowledge on any aspect of energy conservation or policy.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10106. FREEDOM OF ACCESS; CONFIDENTIALITY

The proceedings of the board and records of the trust are subject to the freedom of access laws, Title 1, chapter 13, except as specifically provided in this section. [2009, c. 1, §25 (COR).]

1. **Confidential records.** The following records are designated as confidential for purposes of Title 1, section 402, subsection 3, paragraph A:

A. A record obtained or developed by the trust that:

(1) A person, including the trust, to whom the record belongs or pertains has requested be designated confidential and that the board has determined contains information that gives the owner or a user an opportunity to obtain a business or competitive advantage over another person who does not have access to the information, except through the trust's records, or access to which by others would result in a business or competitive disadvantage, loss of business or other significant detriment, other than loss or denial of financial assistance from the trust, to any person to whom the record belongs or pertains; or

(3) Contains information about the energy usage profile of an identifiable customer of a transmission and distribution utility in the State or an identifiable customer of a distributor of heating fuel or other energy source; and

[2017, c. 163, §2 (AMD).]

B. A financial statement or tax return. [2009, c. 372, Pt. B, §3 (NEW).]

The social security number, address, telephone number or e-mail address of a customer that has participated or may participate in a program of the trust is confidential.

The trust shall provide to a legislative committee, on written request signed by the chairs of that committee, any information or records, including information designated confidential under this subsection, specified in the written request. The information or records may be used only for the lawful purposes of the committee and in any action arising out of any investigation conducted by it.

[2011, c. 343, §1 (AMD); 2017, c. 163, §2 (AMD) .]

2. **Exceptions.** Notwithstanding subsection 1, the following are not confidential and are public records:

A. Any otherwise confidential information the confidentiality of which the board determines to have been satisfactorily and effectively waived; [2009, c. 372, Pt. B, §3 (NEW).]

B. Any otherwise confidential information that has already lawfully been made available to the public; and [2009, c. 372, Pt. B, §3 (NEW).]

C. Impersonal, statistical or general information. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Disclosure prohibited; further exceptions.** The director or a trustee, officer, employee, agent, other representative of the trust or other person may not knowingly divulge or disclose records designated confidential by this section, except that the board, in its discretion and in conformity with legislative freedom of access criteria in Title 1, chapter 13, subchapter 1-A, may make or authorize any disclosure of information of the following types or under the following circumstances:

A. If necessary in connection with processing any application for, obtaining or maintaining financial assistance for any person; [2009, c. 372, Pt. B, §3 (NEW).]

B. To a financing institution or credit reporting service; [2009, c. 372, Pt. B, §3 (NEW).]

C. Information necessary to comply with any federal or state law or rule or with any agreement pertaining to financial assistance; [2009, c. 372, Pt. B, §3 (NEW).]

D. If necessary to ensure collection of any obligation in which the trust has or may have an interest; [2009, c. 372, Pt. B, §3 (NEW).]

E. In any litigation or proceeding in which the trust has appeared, introduction for the record of any information obtained from records designated confidential by this section; and [2009, c. 372, Pt. B, §3 (NEW).]

F. Pursuant to a subpoena, request for production of documents, warrant or other order by competent authority, as long as any such order appears to have first been served on the person to whom the confidential information sought pertains or belongs and as long as any such order appears on its face or otherwise to have been issued or made upon lawful authority. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
RR 2009, c. 1, §25 (COR). 2009, c. 372, Pt. B, §3 (NEW). 2011, c. 343, §1 (AMD). 2017, c. 163, §2 (AMD).

§10107. CONFLICTS OF INTEREST; FINANCIAL DISCLOSURE STATEMENTS

Each trustee is an "executive employee" for purposes of Title 5, sections 18, 18-A and 19. A trustee or employee of the trust or a spouse or dependent child of any of those individuals may not receive any direct personal benefit from the activities of the trust in assisting any private entity. This section does not prohibit

corporations or other entities with which a trustee is associated by reason of ownership or employment from participating in program activities with the trust if ownership or employment is made known to the board and the trustee abstains from voting on matters relating to that participation. [2009, c. 518, §9 (AMD).]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 518, §9 (AMD).

§10108. LIABILITY

1. **Bond.** All officers, directors, employees and other agents of the trust entrusted with the custody of funds of the trust or authorized to disburse the funds of the trust must be bonded either by a blanket bond or by individual bonds with a minimum limitation of $100,000 coverage for each person covered by the bond or bonds, or equivalent fiduciary liability insurance, conditioned upon the faithful performance of their duties. The premiums for the bond or bonds must be paid out of the assets of the trust.

[2011, c. 637, §5 (NEW) .]

2. **Indemnification.** Each trustee must be indemnified by the trust against expenses actually and necessarily incurred by the trustee in connection with the defense of any action or proceeding in which the trustee is made a party by reason of being or having been a trustee and against any final judgment rendered against the trustee in that action or proceeding.

[2011, c. 637, §5 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2011, c. 637, §5 (RPR).

§10109. REGIONAL GREENHOUSE GAS INITIATIVE TRUST FUND

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Carbon dioxide allowance" has the same meaning as in Title 38, section 580-A, subsection 2. [2009, c. 372, Pt. B, §3 (NEW).]

B. "Trade association aggregator" means an entity that gathers individual members of a trade association together for the purpose of receiving electrical efficiency services or bidding on electrical efficiency contracts. [2009, c. 372, Pt. B, §3 (NEW).]

C. "Trust fund" means the Regional Greenhouse Gas Initiative Trust Fund established in subsection 2. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Establishment of Regional Greenhouse Gas Initiative Trust Fund.** The Regional Greenhouse Gas Initiative Trust Fund is established and is the successor to the fund that was established under former section 10008. The trust fund is established to support the goals and implementation of the carbon dioxide cap-and-trade program established under Title 38, section 580-B. The trust fund is established as a nonlapsing fund administered by the trust for the purposes established in this section. The trust is authorized to receive, and shall deposit in the trust fund and expend in accordance with this section, revenue resulting from the sale of carbon dioxide allowances, pursuant to Title 38, section 580-B, and any forward capacity market or other capacity payments from the regional transmission organization that may be attributable to projects funded by the trust under this section. The trust fund may not be used for any other purpose and money in the trust fund is considered to be held in trust for the purposes of benefiting consumers.

A. The trustees have a fiduciary duty to the customers of the State's transmission and distribution utilities in the administration of the trust fund. Upon accepting appointment as a trustee, each trustee must acknowledge the fiduciary duty to use the trust fund only for the purposes set forth in this section. [2009, c. 372, Pt. B, §3 (NEW).]

B. The trustees shall ensure that the goals and objectives of the trust fund, as established in this section and in rules adopted by the trust, are carried out. The trustees shall represent the interests of the trust fund in the development of the triennial plan. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Ceiling on energy efficiency spending.**

[2013, c. 369, Pt. A, §14 (RP) .]

3-A. **Payments.** The trust shall transfer funds, to the extent funds are available, to the commission each year during fiscal years 2017-18, 2018-19 and 2019-20 in accordance with this subsection to be used by the commission for disbursements to affected customers. An affected customer who uses the entire disbursement received by that customer toward an efficiency measure approved by the trust in the fiscal year in which it is received must receive $1 of assistance from the trust for every $3 of the disbursement plus any additional customer funds that are applied by the affected customer toward the cost of the approved efficiency measure as long as the total of assistance from the trust and the disbursement allocated by the commission under this subsection for that customer for that fiscal year does not exceed 65% of the total measure cost.

For the purposes of this subsection, "affected customer" means a customer who is not primarily in the business of selling electricity, is receiving service at a transmission or subtransmission voltage level as defined in section 10110, subsection 6 within the electrical utility transmission system administered by an independent system operator of the New England bulk power system or a successor organization and is an energy-intensive manufacturer, as defined in reports prepared by the U.S. Energy Information Administration. The commission may also determine that a manufacturer not defined as an energy-intensive manufacturer in reports prepared by the U.S. Energy Information Administration is an affected customer if that manufacturer meets the other requirements of the definition under this subsection.

A. The commission shall direct funds to be disbursed quarterly during fiscal years 2017-18, 2018-19 and 2019-20 for the benefit of affected customers in proportion to their retail purchase of electricity as measured in kilowatt-hours for the prior calendar year. The total amount to be disbursed from the fund, to the extent those funds are available, must be $2,500,000 in fiscal year 2017-18, $2,500,000 in fiscal year 2018-19 and $1,000,000 in fiscal year 2019-20. [2017, c. 282, §1 (AMD).]

B. During fiscal years 2017-18, 2018-19 and 2019-20, an affected customer who receives a disbursement under this subsection is not eligible to receive financial or other assistance from the trust fund established in this section except as allowed under this subsection. This ineligibility does not apply to any trust program opportunity notices issued before July 1, 2016 or to any affected customer that elects in writing to the commission prior to October 1, 2017 to not receive a disbursement under this subsection for the full period of fiscal years 2017-18 to 2019-20. The commission shall reduce the total amount to be disbursed under paragraph A as necessary to reflect the share of load represented by affected customers electing to opt out. [2017, c. 282, §1 (AMD).]

C. The commission shall include in its annual report pursuant to section 120, subsection 7 to the joint standing committee of the Legislature having jurisdiction over public utilities matters a description of the commission's activities in carrying out the requirements of this subsection, a list of affected customers receiving disbursements, a list of those who elected to use the disbursements toward efficiency measures and the results of the activities under this subsection. [2015, c. 498, §1 (NEW).]

[2017, c. 282, §1 (AMD) .]

4. **Expenditures; projects.** Except for transfers required under subsection 3-A and other costs authorized in accordance with this chapter, funds in the trust fund must be expended in accordance with this subsection.

A. The trust shall allocate 50% of the funds for residential programs and 50% for commercial and industrial programs. Trust funds must be allocated for measures, investments, loans, technical assistance and arrangements that reduce electricity consumption, increase energy efficiency or reduce greenhouse gas emissions and lower energy costs at commercial or industrial facilities and for investment in measures that lower residential heating energy demand and reduce greenhouse gas emissions. The measures that lower residential heating demand must be fuel-neutral and may include, but are not limited to, energy efficiency improvements to residential buildings and upgrades to efficient heating systems that will reduce residential energy costs and greenhouse gas emissions, as determined by the board. The trust shall ensure that measures to reduce the cost of residential heating are available for low-income households as defined by the trust. When promoting electricity cost and consumption reduction, the trust may consider measures at commercial and industrial facilities that also lower peak capacity demand. Subject to the apportionment pursuant to this subsection, the trust shall fund conservation programs that give priority to measures with the highest benefit-to-cost ratio, as long as cost-effective collateral efficiency opportunities are not lost, and that:

(1) Reliably reduce greenhouse gas production and heating energy costs by fossil fuel combustion in the State at the lowest cost in funds from the trust fund per unit of emissions; or

(2) Reliably increase the efficiency with which energy in the State is consumed at the lowest cost in funds from the trust fund per unit of energy saved.

Notwithstanding this paragraph, during fiscal years 2017-18 to 2019-20, the trust is not required to allocate 50% of the funds to residential programs and 50% of the funds to commercial and industrial programs and may instead allocate those funds to programs at the trust's discretion. [2017, c. 282, §2 (AMD).]

B. Expenditures from the trust fund relating to conservation of electricity and mitigation or reduction of greenhouse gases must be made predominantly on the basis of a competitive bid process for long-term contracts, subject to rules adopted by the board under section 10105. Rules adopted by the board to implement the competitive bid process under this paragraph may not include an avoided cost methodology for compensating successful bidders. Bidders may propose contracts designed to produce greenhouse gas savings or electricity conservation savings, or both, on a unit cost basis. Contracts must be commercially reasonable and may require liquidated damages to ensure performance. Contracts must provide sufficient certainty of payment to enable commercial financing of the conservation measure purchased and its installation. [2009, c. 372, Pt. B, §3 (NEW).]

C. The board may target bid competitions in areas or to participants as they consider necessary, as long as the requirements of paragraph A are satisfied. [2009, c. 372, Pt. B, §3 (NEW).]

D. Community-based renewable energy projects, as defined in section 3602, subsection 1, may apply for funding from the trust to the extent they are eligible under paragraph A. [2013, c. 369, Pt. A, §16 (AMD).]

E. The size of a project funded by the trust fund is not limited as long as funds are awarded to maximize energy efficiency and support greenhouse gas reductions and to fully implement the triennial plan. [2009, c. 372, Pt. B, §3 (NEW).]

F. No more than $800,000 of trust fund receipts in any one year may be used for the costs of administering the trust fund pursuant to this section. The limit on administrative costs established in this paragraph does not apply to the following costs that may be funded by the trust fund:

(1) Costs of the Department of Environmental Protection for participating in the regional organization as defined in Title 38, section 580-A, subsection 20 and for administering the allowance auction under Title 38, chapter 3-B; and

(2) Costs of the Attorney General for activities pertaining to the tracking and monitoring of allowance trading activity and managing and evaluating the trust's funding of conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

G. In order to minimize administrative costs and maximize program participation and effectiveness, the trustees shall, to the greatest extent feasible, coordinate the delivery of and make complementary the energy efficiency programs under this section and other programs under this chapter. [2009, c. 372, Pt. B, §3 (NEW).]

H. The trust shall consider delivery of efficiency programs by means of contracts with service providers that participate in competitive bid processes for reducing energy consumption within individual market segments or for particular end uses. [2009, c. 372, Pt. B, §3 (NEW).]

I. A trade association aggregator is eligible to participate in competitive bid processes under this subsection. [2009, c. 372, Pt. B, §3 (NEW).]

J. Trust fund receipts must, upon request by the Department of Environmental Protection, fund research approved by the Department of Environmental Protection in an amount of up to $100,000 per year to develop new categories for carbon dioxide emissions offset projects, as defined in Title 38, section 580-A, subsection 6, that are located in the State. Expenditures on research pursuant to this paragraph are not considered administrative costs under paragraph F, subparagraph (1). [2013, c. 369, Pt. A, §17 (AMD).]

[2013, c. 369, Pt. A, §§15-17 (AMD); 2017, c. 282, §2 (AMD) .]

5. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 565, §6 (AMD). 2009, c. 565, §9 (AFF). 2013, c. 369, Pt. A, §§14-17 (AMD). 2015, c. 498, §§1, 2 (AMD). 2017, c. 282, §§1, 2 (AMD).

§10110. ELECTRIC EFFICIENCY AND CONSERVATION PROGRAMS

(CONTAINS TEXT WITH VARYING EFFECTIVE DATES)

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Administrative costs" means costs of the trust that are funded pursuant to and associated with the implementation of this section, including, but not limited to, costs of program planning and evaluation, costs of securing necessary expertise, costs associated with contract formation and administration and costs of monitoring and enforcing contractual obligations. [2009, c. 372, Pt. B, §3 (NEW).]

B. "Administration fund" means the conservation administration fund established by the trust pursuant to subsection 8. [2009, c. 372, Pt. B, §3 (NEW).]

C. "Conservation programs" means programs developed by the trust pursuant to this section designed to reduce inefficient electricity use. [2009, c. 372, Pt. B, §3 (NEW).]

D. "Prior conservation efforts" means programs to promote conservation undertaken at the direction or with the authorization of the commission prior to March 1, 2002. [2009, c. 372, Pt. B, §3 (NEW).]

E. "Program fund" means the conservation program fund established by the trust pursuant to subsection 7. [2009, c. 372, Pt. B, §3 (NEW).]

F. "Service provider" means a public or private provider of energy conservation services or an entity selected by the trust to contract with such providers or otherwise arrange the delivery of conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

G. "Trade association aggregator" means an entity that gathers individual members of a trade association together for the purpose of receiving electrical efficiency services or bidding on electrical efficiency contracts. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Programs.** The trust shall develop and implement conservation programs to help reduce energy costs for electricity consumers in the State by the maximum amount possible. The trust shall establish and, on a schedule determined by the trust, revise objectives and an overall energy strategy for conservation programs. Conservation programs implemented by the trust must be consistent with the objectives and an overall energy strategy developed by the trust and approved by the commission and be cost-effective, as defined by the board by rule. In defining "cost-effective," the board may consider the extent to which a program promotes sustainable economic development or reduces environmental damage to the extent the board can quantify or otherwise reasonably identify such effects. Consistent with the other requirements of this section, the trust, in adopting and implementing conservation programs, shall seek to encourage efficiency in electricity use, provide incentives for the development of new, energy-efficient business activity in the State and take into account the costs and benefits of energy efficiency and conservation to existing business activity in the State.

A. The trust shall consider, without limitation, conservation programs that:

(1) Increase consumer awareness of cost-effective options for conserving energy;

(2) Create more favorable market conditions for the increased use of energy-efficient products and services;

(3) Promote sustainable economic development and reduce environmental damage;

(4) Reduce the price of electricity over time for all consumers by achieving reductions in demand for electricity during peak use periods; and

(5) Reduce total energy costs for electricity consumers in the State by increasing the efficiency with which electricity is consumed. [2009, c. 372, Pt. B, §3 (NEW).]

B. The trust, with regard to funds available to the trust under this section, shall:

(1) Target at least 10% of funds for electricity conservation collected under former subsection 4 or subsection 4-A or $2,600,000, whichever is greater, to programs for low-income residential consumers, as defined by the board by rule;

(2) Target at least 10% of funds for electricity conservation collected under former subsection 4 or subsection 4-A or $2,600,000, whichever is greater, to programs for small business consumers, as defined by the board by rule; and

(3) To the greatest extent practicable, apportion remaining funds among customer groups and geographic areas in a manner that allows all other customers to have a reasonable opportunity to participate in one or more conservation programs. [2015, c. 494, Pt. A, §39 (AMD).]

C. The trust shall hold at least one public hearing and invite, accept, review and consider comments and suggestions from interested parties prior to adopting or substantially revising conservation programs or the objectives and overall strategy for conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

D. The trust shall monitor conservation planning and program development activities in the region and around the country. [2009, c. 372, Pt. B, §3 (NEW).]

E. The trust shall implement conservation programs by contracting with service providers in accordance with subsection 3. [2009, c. 372, Pt. B, §3 (NEW).]

F. The trust shall monitor and evaluate the delivery of conservation programs by service providers and assess the cost-effectiveness of programs in meeting the objectives and overall strategy established by the trust. [2009, c. 372, Pt. B, §3 (NEW).]

G. The trust, to the extent possible, shall coordinate its efforts with other agencies of the State with energy-related responsibilities. [2009, c. 372, Pt. B, §3 (NEW).]

H. The trust shall secure sufficient technical and administrative expertise to carry out its responsibilities pursuant to this section by:

(1) Contracting with appropriate entities with relevant expertise and experience;

(2) Establishing one or more advisory groups composed of persons with relevant expertise and experience; or

(3) Any other reasonable means developed by the trust. [2009, c. 372, Pt. B, §3 (NEW).]

I. The trust may coordinate its efforts under this section with similar efforts in other states in the northeast region and enter into agreements with public agencies or other entities in or outside of the State for joint or cooperative conservation planning or conservation program delivery, if the trust finds that such coordination or agreements would provide demonstrable benefits to citizens of the State and be consistent with this section, the conservation programs and the objectives and overall strategy for the conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

J. The trust shall encourage school facility managers to complete an energy efficiency training and certification program established and conducted by the trust under this section. To the extent the trust determines necessary and appropriate to meet the goals of this paragraph, the trust may, in accordance with the requirements of this section, establish incentive mechanisms to encourage participation in this program. For purposes of this paragraph, "school facility managers" means persons employed by school administrative units in this State who are responsible for the design or operation of school administrative unit facilities or the heating, ventilation or air conditioning systems or equipment used in such facilities. [2009, c. 372, Pt. B, §3 (NEW).]

K. The trust shall provide programs developed in partnership with energy providers, such as transmission and distribution utilities, to provide consumers with information on energy options to promote energy efficiency and increased use of alternative energy resources in the State. [2011, c. 637, §6 (NEW).]

L. (TEXT EFFECTIVE UNTIL 9/30/21) (TEXT REPEALED 9/30/21) Pursuant to section 3214, subsection 2-A, the trust shall work with investor-owned transmission and distribution utilities, consumer-owned transmission and distribution utilities that elect to participate in an arrearage management program pursuant to section 3214, subsection 2-A and other stakeholders to provide access to a complementary low-income energy efficiency program for participants in the arrearage management programs in order to help reduce participants' energy consumption.

This paragraph is repealed September 30, 2021. [2017, c. 414, §2 (AMD).]

[2017, c. 414, §2 (AMD) .]

3. **Implementation.** The trust shall seek to implement the delivery of conservation programs in all regions of the State on an equitable basis and to citizens at all income levels. The trust may arrange the delivery of conservation programs by contracting with service providers. The trust shall select service providers in accordance with this subsection.

A. The trust shall select service providers through a competitive bidding process. [2009, c. 372, Pt. B, §3 (NEW).]

B. To the extent practicable, the trust shall encourage the development of resources, infrastructure and skills within the State by giving preference to in-state service providers. [2009, c. 372, Pt. B, §3 (NEW).]

C. Notwithstanding paragraph A:

(1) The trust may select a service provider for one or more conservation programs without employing a competitive bidding process if the trust finds that the selection of the service provider will promote the efficient and effective delivery of conservation programs and is consistent with the objectives and overall strategy of the conservation programs; and

(2) For the delivery of conservation programs to low-income residential consumers, the commission, without employing a competitive bidding process, may use the delivery system for the Weatherization Assistance for Low-income Persons Program administered through the United States Department of Energy and the network of for-profit and not-for-profit entities who have held contracts with transmission and distribution utilities to deliver conservation services to low-income and residential customers. [2009, c. 372, Pt. B, §3 (NEW).]

In accordance with section 10105, the trust is not subject to rules adopted by the State Purchasing Agent in selecting service providers pursuant to this subsection. The board shall adopt rules establishing procedures governing the selection of service providers under this subsection. The board shall consult with the State Purchasing Agent in developing the rules.

A trade association aggregator is eligible to participate in competitive bid processes under this subsection.

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Funding level; base assessment.**

[2013, c. 369, Pt. A, §30 (AFF); 2013, c. 369, Pt. A, §19 (RP) .]

4-A. **Procurement of cost-effective energy efficiency resources.** The commission shall ensure that transmission and distribution utilities on behalf of their ratepayers procure all electric energy efficiency resources found by the commission to be cost-effective, reliable and achievable pursuant to section 10104, subsection 4, except that the commission may not require the inclusion in rates under this subsection of a total amount that exceeds 4% of total retail electricity and transmission and distribution sales in the State as determined by the commission by rule. The cost of procurement of cost-effective electric energy efficiency resources is a just and reasonable element of rates. The commission may issue any appropriate orders to transmission and distribution utilities necessary to achieve the goals of this subsection. When determining the amount of cost-effective electric energy efficiency resources to be procured under this subsection, the commission shall:

A. Consider electric energy efficiency resources that are reasonably foreseeable to be acquired by the trust using all other sources of revenue, including, but not limited to, the Regional Greenhouse Gas Initiative Trust Fund under section 10109; [2013, c. 369, Pt. A, §20 (NEW); 2013, c. 369, Pt. A, §30 (AFF).]

B. Ensure that calculations of avoided energy costs and the budget identified by the trust in its triennial plan as needed to capture all cost-effective electric energy efficiency resources are reasonable, based on sound evidence and make use of best practices across the region; and [2013, c. 369, Pt. A, §20 (NEW); 2013, c. 369, Pt. A, §30 (AFF).]

C. Maximize total electricity savings for all ratepayers. [2013, c. 369, Pt. A, §20 (NEW); 2013, c. 369, Pt. A, §30 (AFF).]

The commission shall consider gross efficiency savings for the purpose of determining savings that are cost-effective, reliable and achievable and shall consider both net and gross efficiency savings for the purpose of determining the appropriateness of the amount identified by the trust in its triennial plan as needed to capture all cost-effective electric energy efficiency resources.

Rules adopted under this subsection are routine technical rules under Title 5, chapter 375, subchapter 2-A.

[2015, c. 255, §1 (AMD) .]

5. **Other assessments on transmission and distribution utilities.**

[2013, c. 369, Pt. A, §21 (RP) .]

6. **Transmission and subtransmission voltage level.** After July 1, 2007, electricity customers receiving service at transmission and subtransmission voltage levels are not eligible for conservation programs undertaken under this section, and those customers are not required to pay in rates any amount associated with any procurement of energy efficiency resources by transmission and distribution utilities ordered under subsection 4-A. For the purposes of this section, "transmission voltage levels" means 44 kilovolts or more, and "subtransmission voltage levels" means 34.5 kilovolts.

[2015, c. 494, Pt. A, §40 (AMD) .]

7. **Conservation program fund.** The trust shall establish a conservation program fund to be used solely for conservation programs.

A. The commission shall deposit all assessments collected pursuant to this section, other than funds deposited in the administration fund, into the program fund. [2009, c. 372, Pt. B, §3 (NEW).]

B. Any interest earned on funds in the program fund must be credited to the program fund. [2009, c. 372, Pt. B, §3 (NEW).]

C. Funds not spent in any fiscal year remain in the program fund to be used for conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

D. The commission or the trust may apply for and receive grants from state, federal and private sources for deposit in the program fund and also may deposit in the program fund any grants or other funds received by or from any entity with which the commission or trust has an agreement or contract pursuant to this section if the commission receives prior written consent from the trust that receipt of those funds would be consistent with the purposes of this section. If the commission or trust receives any funds pursuant to this paragraph, it shall establish a separate account within the program fund to receive the funds and shall keep those funds and any interest earned on those funds segregated from other funds in the program fund. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

8. **Administration fund.** The trust may transfer up to 9% of funds collected pursuant to this section to its administration fund to be used solely to defray administrative costs. Any interest on funds in the administration fund must be credited to the administration fund and any funds unspent in any fiscal year must either remain in the administration fund to be used to defray administrative costs or be transferred to the program fund.

[2013, c. 369, Pt. A, §23 (AMD) .]

9. **Prior conservation efforts.** Except as otherwise directed by the commission, transmission and distribution utilities shall continue to administer contracts associated with prior conservation efforts. Such contracts may not be renewed, extended or otherwise modified by transmission and distribution utilities in a manner that results in any increased expenditures associated with those contracts.

[2009, c. 372, Pt. B, §3 (NEW) .]

10. **Funds held in trust.** All funds collected from electricity consumers pursuant to this section are collected under the authority and for the purposes of this section and are deemed to be held in trust for the purposes of benefiting electricity consumers. In the event funds are not expended or contracted for expenditure within 2 years of being collected from consumers, the commission shall ensure that the value of those funds is returned to consumers.

[2013, c. 369, Pt. A, §24 (AMD) .]

11. **Resolution of disputes.** Upon receipt of an appropriate filing by a party to a contract relating to prior conservation efforts, the commission shall adjudicate a dispute relating to the interpretation or administration of the contract by the transmission and distribution utility.

In the case of a dispute filed after April 5, 2002, the commission shall refer the dispute to commercial arbitration in accordance with this paragraph. Each party to the contract shall select an arbitrator who is not a current employee of the party. The selected arbitrators shall then select a 3rd arbitrator. If the arbitrators cannot agree on the 3rd arbitrator, each party shall submit to the commission a list of at least 3 arbitrators who have no previous or current interest in the contract and, to the extent practicable, have special competence and experience with respect to the subject matter involved in the dispute. The commission shall choose the 3rd arbitrator from among the persons on the lists provided by the parties. After their selection, the arbitrators shall promptly hear and determine the controversy pursuant to the rules of the American Arbitration Association for the conduct of commercial arbitration proceedings, except that if such rules conflict with any procedural rules established by the commission or applicable provisions of the laws of this State relating to arbitration, the applicable commission rules or provisions of state law govern the arbitration. The arbitrators shall submit their decision to the commission.

A. The commission shall accept or reject the decision within 30 days of its submission, unless the commission requires additional time, in which case it may extend its review for another 30 days. [2009, c. 372, Pt. B, §3 (NEW).]

B. If the commission does not reject the decision within 30 days or, if it extends its review period an additional 30 days, within 60 days, the decision is deemed accepted. [2009, c. 372, Pt. B, §3 (NEW).]

C. If the commission rejects the decision, the commission shall adjudicate the dispute. [2009, c. 372, Pt. B, §3 (NEW).]

A decision by the commission under this subsection, including a decision by the arbitrators that is deemed accepted by the commission pursuant to paragraph B, is enforceable in a court of law.

[2009, c. 372, Pt. B, §3 (NEW) .]

12. **Ratemaking and cost recovery.** The assessments charged to transmission and distribution utilities under this section are just and reasonable costs for rate-making purposes and must be reflected in the rates of transmission and distribution utilities.

[2009, c. 372, Pt. B, §3 (NEW) .]

13. **Rules.** The trust shall adopt rules necessary to implement this section. Rules adopted under this section are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

14. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY

2009, c. 372, Pt. B, §3 (NEW). 2009, c. 518, §10 (AMD). 2011, c. 637, §6 (AMD). 2013, c. 369, Pt. A, §§18-24 (AMD). 2013, c. 369, Pt. A, §30 (AFF). 2013, c. 556, §2 (AMD). 2015, c. 255, §1 (AMD). 2015, c. 494, Pt. A, §§39, 40 (AMD). 2017, c. 414, §2 (AMD).

§10111. NATURAL GAS CONSERVATION PROGRAM

1. **Program established.** In accordance with the goals and objectives of the triennial plan, the trust shall establish a cost-effective conservation program to promote the efficient use of natural gas. Each gas utility in the State that serves at least 5,000 residential customers shall contribute data and other relevant information to assist in the development of the program. In determining whether the program is cost-effective, the trust may consider whether it promotes sustainable economic development or reduces greenhouse gas emissions to the extent the trust can quantify or otherwise reasonably identify such effects. The trust shall seek to encourage efficiency in natural gas use, provide incentives for the development of new, energy-efficient business activity in the State and take into account the cost and benefits of energy efficiency and conservation to existing business activity in the State.

A. The trust shall consider, without limitation, a natural gas conservation program that:

(1) Increases consumer awareness of cost-effective options for conserving energy;

(2) Creates more favorable market conditions for the increased use of efficient products and services; and

(3) Promotes sustainable economic development and reduces environmental damage. [2009, c. 372, Pt. B, §3 (NEW).]

B. The trust shall apportion available funds such that:

(1) A reasonable percentage of the available funds is directed to programs for low-income residential consumers, as defined by the trust. The trust shall establish the percentage based on an assessment of the opportunity for cost-effective conservation measures for such consumers, including an assessment of the number of low-income residential consumers that may be eligible for such programs;

(2) A reasonable percentage of the available funds is directed to programs for small business consumers, as defined by the trust. The trust shall establish the percentage based on an assessment of the opportunity for cost-effective conservation measures for such consumers. In defining "small business" for the purposes of this subparagraph, the trust shall consider definitions of that term used for other programs in this State that assist small businesses; and

(3) To the greatest extent practicable, the remaining available funds are apportioned in a manner that allows all other consumers to have a reasonable opportunity to participate in one or more conservation programs. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Funding level.** The natural gas conservation fund, which is a nonlapsing fund, is established to carry out the purposes of this section. The commission shall assess each gas utility, in accordance with the triennial plan, an amount necessary to capture all cost-effective energy efficiency that is achievable and reliable for those consumers who are eligible to receive funds from the natural gas conservation fund. The commission shall direct a gas utility that collects any portion of the assessment under this subsection from a customer that is a large-volume manufacturer and large-volume agricultural business to collect the assessment only on the first 1,000,000 centum cubic feet of natural gas used by that manufacturer or agricultural business in each year. The limitation on the collection of the assessment from large-volume manufacturers and large-volume agricultural businesses may not affect the trust's determination of the amount necessary to capture all cost-effective energy efficiency that is achievable and reliable. The limitation does not limit the eligibility of a large-volume manufacturer or large-volume agricultural business to participate in a natural gas conservation

program. All amounts collected under this subsection must be transferred to the natural gas conservation fund. Any interest on funds in the fund must be credited to the fund. Funds not spent in any fiscal year remain in the fund to be used for the purposes of this section.

The assessments charged to gas utilities under this section are just and reasonable costs for rate-making purposes and must be reflected in the rates of gas utilities.

All funds collected pursuant to this section are collected under the authority and for the purposes of this section and are deemed to be held in trust for the purposes of benefiting natural gas consumers served by the gas utilities assessed under this subsection. In the event funds are not expended or contracted for expenditure within 2 years of being collected from consumers, the commission shall ensure that the value of those funds is returned to consumers.

For purposes of this subsection, "large-volume manufacturer" means a customer that is a gas utility ratepayer engaged in manufacturing in the State and purchases at least 1,000,000 centum cubic feet of natural gas per year. For purposes of this subsection, "large-volume agricultural business" means a customer that is a gas utility ratepayer that purchases at least 1,000,000 centum cubic feet of natural gas per year and is engaged in the commercial growing or harvesting of plants or commercial aquaculture, as defined in Title 12, section 6001, subsection 1, in the State.

Rules adopted by the commission under this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2017, c. 358, §1 (AMD) .]

2-A. **Exemption.** A wholesale electricity-generating facility that has a nameplate capacity of 3 megawatts or greater is not eligible to participate in any natural gas conservation program under this section. The commission may not allow a gas utility to collect an assessment under this section through its rates from a wholesale electricity-generating facility that has a nameplate capacity of 3 megawatts or greater.

[2015, c. 425, §2 (NEW) .]

3. **Rules.** The trust may adopt rules necessary to implement this section. Rules adopted by the trust under this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2011, c. 637, §7 (AMD). 2013, c. 369, Pt. A, §25 (AMD). 2015, c. 425, §§1, 2 (AMD). 2017, c. 282, §3 (AMD). 2017, c. 358, §1 (AMD).

§10112. SOLAR AND WIND ENERGY REBATE PROGRAM

(REPEALED)

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). MRSA T. 35-A, §10112, sub-§7 (RP).

§10113. TRAINING FOR INSTALLERS OF SOLAR EQUIPMENT

1. **Installation training.** To the extent that funds and resources allow, the trust shall establish training programs for installers of solar equipment that most effectively meet the needs of the public. The trust:

A. May develop separate programs for different solar technologies or applications when the trust determines that the skills or training for the installation of those technologies or applications merit the distinction; [2009, c. 372, Pt. B, §3 (NEW).]

B. Shall confer with the Plumbers' Examining Board and the Electricians' Examining Board when it develops the course content and requirements; [2009, c. 372, Pt. B, §3 (NEW).]

C. Shall determine the content of the training, the hours required for course completion and the manner in which applicants must demonstrate proficiency in solar equipment installation; [2009, c. 372, Pt. B, §3 (NEW).]

D. Shall issue a certificate of completion to individuals who meet the requirements the trust has established; [2009, c. 372, Pt. B, §3 (NEW).]

E. May establish reasonable course fees. All fees must be paid to the Treasurer of State to be used by the trust for the purposes of this section; [2009, c. 372, Pt. B, §3 (NEW).]

F. Shall determine terms for the expiration and renewal of an applicant's certificate of completion; and [2009, c. 372, Pt. B, §3 (NEW).]

G. Shall determine an appropriate means of maintaining recognition of the training received by persons holding certificates issued pursuant to former section 10002 or former Title 32, chapter 87. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Qualifications for installing solar equipment.** A certificate of completion issued by the trust pursuant to subsection 1 does not exempt the holder from any applicable licensing requirements for activities involved in installing solar equipment, including but not limited to licensing requirements established in Title 32, chapter 17 or 49.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10114. TRAINING FOR ENERGY AUDITORS

1. **Auditor training.** To the extent that funds and resources allow, the trust shall set standards for training programs for energy auditors that most effectively meet the needs of the public and that satisfy the requirements of funding sources. For the purposes of this subsection, an energy auditor is a person who is trained to prepare a report that delineates the energy consumption characteristics of a building, identifies appropriate energy efficiency operations and maintenance procedures and recommends appropriate energy efficiency measures. The trust:

A. May develop separate programs for audits of different building types and functions when the trust determines that the skills or training needed to perform these audits merit the distinction; [2009, c. 372, Pt. B, §3 (NEW).]

B. Shall determine the content of the training, the hours required for course completion and the manner in which applicants must demonstrate proficiency in energy auditing; [2009, c. 372, Pt. B, §3 (NEW).]

C. Shall issue a certificate of completion to individuals who meet the requirements the trust has established; [2009, c. 372, Pt. B, §3 (NEW).]

D. May establish reasonable course fees. All fees collected by the trust must be used for the purposes of this section; [2009, c. 372, Pt. B, §3 (NEW).]

E. Shall determine terms for the expiration and renewal of an applicant's certificate of completion; [2009, c. 372, Pt. B, §3 (NEW).]

F. Shall determine an appropriate means of maintaining recognition of the training received by persons holding a certification; [2009, c. 372, Pt. B, §3 (NEW).]

G. Shall work with state agencies and other interested parties to establish certification standards for energy auditors who perform work under programs administered by the trust; and [2009, c. 372, Pt. B, §3 (NEW).]

H. Shall recognize other established training programs that offer certification consistent with the trust's energy auditor training standards. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10115. FEDERAL ENERGY PROGRAMS

1. **Programs.** The trust shall oversee and administer:

A. The United States Department of Energy State Energy Program; and [2009, c. 372, Pt. B, §3 (NEW).]

B. Other federally funded programs and projects related to trust programs. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Use of funds.** All funds received pursuant to this section must be expended in accordance with the requirements of sections 10103, 10104 and 10105, unless specifically prohibited by federal law or regulation. Funds to be expended for programs or projects related to weatherization and energy-efficient use of fossil fuels for heating must be deposited in the Heating Fuels Efficiency and Weatherization Fund established in section 10119 and expended in accordance with that section. The trust may transfer any federal funds received pursuant to 42 United States Code, Sections 6321 to 6326 (2009) to the appropriate state agency as it considers necessary to the extent that such funds are designated for a purpose that falls outside the energy efficiency and alternative energy programs that the trust oversees and administers.

[2009, c. 518, §11 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 518, §11 (AMD).

§10116. ENERGY CONSERVATION SMALL BUSINESS REVOLVING LOAN PROGRAM

1. **Program and fund.** The trust shall establish the Energy Conservation Small Business Revolving Loan Program, referred to in this subsection as "the program," and the Energy Conservation Small Business Revolving Loan Fund, referred to in this subsection as "the fund." The fund consists of federal capitalization grants and awards made to the State for the purposes for which the fund is established; any amounts that the trust deposits in the fund from the assessment on transmission and distribution utilities pursuant to section 10110 or from other program funds, to the extent that use of such funds for the program will be consistent with the requirements governing the use of such funds; principal and interest received from the repayment of loans made from the fund; any interest earned on investment of fund balances; and other funds from any public or private source received for the purposes for which the fund is established. The fund is a nonlapsing revolving fund account.

A. The trust shall credit all repayments of loans made to businesses, including interest, penalties and other fees and charges related to fund loans, to the fund account. [2009, c. 372, Pt. B, §3 (NEW).]

B. Money in the fund not needed to meet the current obligations of the program must be deposited with the Treasurer of State to the credit of the fund account and may be invested in such manner as is provided by law. Interest received on that investment must be credited to the fund account. [2009, c. 372, Pt. B, §3 (NEW).]

C. At the end of each fiscal year, all unencumbered balances in the fund account may be carried forward to be used for the purposes specified in this subsection. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10117. ENERGY EFFICIENCY OF RENTAL PROPERTIES

1. **Residential energy efficiency disclosure statement.** The trust and the Maine State Housing Authority shall prepare a residential energy efficiency disclosure statement form for landlords and other lessors of residential properties to use to disclose to tenants and lessees information about the energy efficiency of the property in order to comply with Title 14, section 6030-C. The trust and the Maine State Housing Authority shall post and maintain the statement form required by this subsection on the Internet in a format that is easily accessible by the public.

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Suggested energy efficiency standards.** The trust and the Maine State Housing Authority shall prepare suggested energy efficiency standards for landlords and other lessors of residential property that is used by a tenant or lessee as a primary residence. The trust and the Maine State Housing Authority shall post and maintain the standards required by this subsection on the Internet in a format that is easily accessible by the public.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10118. PUBLIC INFORMATION AND OUTREACH

1. **General.** The trust shall provide to the public information about renewable energy technologies and energy efficiency practices. In providing this information, the trust shall consider:

A. The aspects of renewable energy technologies and energy efficiency practices about which the public needs information; [2009, c. 372, Pt. B, §3 (NEW).]

B. The most effective means of providing the information; and [2009, c. 372, Pt. B, §3 (NEW).]

C. The members of the public who would most benefit from the information. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Funding.** The trust may seek federal funding for the purposes of this section and, to the extent necessary, may charge reasonable fees to cover the costs of training or other services provided pursuant to this section. All fees must be paid to the trust and used to reimburse the trust for its expenses in providing the service for which the fee is charged.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW).

§10119. HEATING FUELS EFFICIENCY AND WEATHERIZATION FUND

1. **Fund established; use of money.** The Heating Fuels Efficiency and Weatherization Fund, referred to in this section as "the fund" is established. The fund is a nonlapsing fund and is administered by the trust in accordance with this section. Any interest earned on funds in the fund must be credited to the fund, and funds not spent in any fiscal year remain in the fund to be used in accordance with this section. The trust may receive and deposit in the fund funds from the following sources:

A. Any funds collected from an assessment on heating fuels; [2009, c. 372, Pt. B, §3 (NEW).]

B. Federal funds and awards that may be used for the purposes of this section; [2009, c. 652, Pt. A, §49 (AMD).]

C. The proceeds of any bonds issued for the purposes of this section; [2009, c. 372, Pt. B, §3 (NEW).]

D. Principal and interest received from the repayment of loans made from the fund; [2009, c. 372, Pt. B, §3 (NEW).]

E. Any interest earned on investment of fund balances; and [2009, c. 372, Pt. B, §3 (NEW).]

F. Any other funds from public or private sources received in support of the purposes for which the fund is established. [2009, c. 372, Pt. B, §3 (NEW).]

The trust may annually deposit funds received pursuant to this section into the administration fund, to a maximum in any fiscal year of 10% of the revenues received under this section.

[2009, c. 652, Pt. A, §49 (AMD) .]

2. **Program.** All funds deposited in the fund must be administered by the trust in accordance with the following.

A. All funds deposited in the fund must be administered by the trust to reduce heating fuel consumption consistent with the purpose and targets of the trust and the triennial plan to achieve the following goal:

(1) By 2030, to provide cost-effective energy efficiency and weatherization measures to substantially all homes and businesses whose owners wish to participate in programs established by the trust under this section. [2009, c. 372, Pt. B, §3 (NEW).]

B. Funds from the fund may be used only for programs that provide cost-effective energy efficiency and weatherization measures for the benefit of heating fuel customers or to efficiency service providers serving those customers and in accordance with the following.

(1) Program categories must include low-income, single-family and 2-family residential units, multifamily residential units, small business, commercial and institutional and such other categories as the trust determines appropriate;

(2) Within program categories, the trust may differentiate between programs for new construction and existing buildings; and

(3) Cost-effective energy efficiency measures must include measures that improve the energy efficiency of energy-using systems, such as heating and cooling systems, through system upgrades or conversions, including conversions to energy-efficient systems that rely on renewable energy sources or systems that rely on effective energy efficiency technologies. [2009, c. 372, Pt. B, §3 (NEW).]

C. Program designs approved by the trust must contain:

(1) Incentives to consumers to purchase and install cost-effective efficiency and weatherization products and services identified by a certified energy auditor, except in the case of programs to deliver education, training or certifications;

(2) A schedule of customer copayments and loan options for prescribed products and services. Programs for low-income consumers may provide exemptions from the copayment and schedule;

(3) A plan for integrating delivery of heating fuel efficiency and weatherization measures with electric efficiency measures; and

(4) A system for the equitable allocation of costs among the contributing funds or subaccounts administered by the trust when more than one efficiency opportunity is identified. [2009, c. 372, Pt. B, §3 (NEW).]

D. Other eligible program measures may include, but are not limited to, training or certification of energy auditors, insulation installers, mechanical heating system installers and maintenance technicians and building energy inspectors. [2009, c. 372, Pt. B, §3 (NEW).]

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Rulemaking.** The board may adopt rules to implement this section. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

4. **Effective date.** This section takes effect July 1, 2010.

[2009, c. 372, Pt. B, §3 (NEW) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2009, c. 652, Pt. A, §49 (AMD).

§10120. COMMISSION OVERSIGHT OF EFFICIENCY MAINE TRUST

1. **Measures of performance.** The trust shall incorporate measures of performance in the triennial plan. The measures of performance must define the electricity, natural gas and heating fuel savings targets established in section 10104, subsection 4, paragraph F and specify the measures for assessing progress in meeting the targets. The commission shall ratify measures of performance incorporated in the triennial plan if it finds that these measures satisfy the requirements of this chapter, including the principles described in section 10104, subsection 2, and are in the public interest. The commission and the trust may revise one or more of the measures of performance in the triennial plan at any time by mutual agreement.

[2009, c. 372, Pt. B, §3 (NEW) .]

2. **Regulation.** The trust may not expend any funds from assessments made under this chapter until the commission approves the triennial plan. The commission upon recommendation of the Public Advocate or the Attorney General may open an investigation of practices or acts of the trust. If the commission, upon investigation, finds that the trust has failed to comply with any requirement of this chapter or other requirements of law in the use or expenditure of any funds from assessments made under this chapter, the commission may issue an appropriate order directing the trust to take necessary actions to bring the trust into compliance with the law and may suspend or limit the authority of the trust to expend or encumber any funds derived from assessments made under this chapter until the commission finds the trust has come into compliance with the law. The commission may adopt rules to implement this subsection. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2009, c. 372, Pt. B, §3 (NEW) .]

3. **Oversight and evaluation fund.** The commission shall establish an oversight and evaluation fund to be used solely to defray the commission's projected costs of ongoing oversight of the trust's programs and results, including but not limited to reviewing the trust's calculation of program costs and benefits, measurement and verification procedures and program evaluations and reviewing and approving the triennial plan. The commission may use funds to contract with expert 3rd-party resources to provide technical assistance or impartial evaluation of the performance of energy efficiency programs administered by the trust. The commission may assess the trust an amount not to exceed 1% of the total funds administered by the trust, and the trust shall transfer that amount to the commission to be deposited into the oversight and evaluation fund. Any interest on funds in the oversight and evaluation fund must be credited to the oversight and evaluation fund and any funds unspent in any fiscal year must either remain in the oversight and evaluation fund to be used for the purposes specified in this subsection or be transferred to the trust for deposit in appropriate program funds.

[2013, c. 369, Pt. A, §26 (AMD) .]

SECTION HISTORY
2009, c. 372, Pt. B, §3 (NEW). 2013, c. 369, Pt. A, §26 (AMD).

§10121. ENERGY EFFICIENCY AND RENEWABLE RESOURCE FUND

1. Funding for energy efficiency and renewable resource research and development; community demonstration projects; rebates for cost-effective energy efficiency and renewable energy technologies. The trust by rule shall establish and administer a program allowing retail consumers of electricity to make voluntary contributions to fund energy efficiency and renewable resource research and development, to fund community demonstration projects using energy efficiency and renewable energy technologies and to fund rebates for cost-effective energy efficiency and renewable energy technologies. The program must:

A. Include a mechanism for customers to indicate their willingness to make contributions; [2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF).]

B. Provide that transmission and distribution utilities collect and account for the contributions and forward them to the trust; [2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF).]

C. Provide for a distribution of the funds through a competitive bid process to the University of Maine System, the Maine Maritime Academy or the Maine Community College System for energy efficiency and renewable resource research and development; [2011, c. 637, §8 (AMD).]

D. Provide for a distribution of the funds through a competitive bid process to Maine-based nonprofit organizations that qualify under the federal Internal Revenue Code, Section 501(c)(3), consumer-owned transmission and distribution utilities, community-based nonprofit organizations, community action programs, municipalities, quasi-municipal corporations or districts as defined in Title 30-A, section 2351, community-based renewable energy projects as defined in section 3602, subsection 1 and school administrative units as defined in Title 20-A, section 1 for community demonstration projects using energy efficiency and renewable energy technologies; [2011, c. 637, §8 (AMD).]

E. Provide for an annual distribution of 35% of the funds to the Maine Technology Institute to support the development and commercialization of energy efficiency and renewable energy technologies; and [2011, c. 637, §8 (AMD).]

F. Provide rebates for cost-effective energy efficiency and renewable energy technologies as determined by the trust. [2011, c. 637, §8 (AMD).]

[2011, c. 637, §8 (AMD) .]

2. Fund established. There is established the Energy Efficiency and Renewable Resource Fund, referred to in this section as "the fund." The fund is a nonlapsing fund administered by the trust. All funds collected by the trust pursuant to subsection 1 must be deposited in the fund for distribution by the trust in accordance with subsection 1. The trust may seek and accept funding for the program established pursuant to subsection 1 from other sources, public or private. Any funds accepted for use in the program established pursuant to subsection 1 must be deposited in the fund. Funds not spent in any fiscal year remain in the fund to be used for the purposes of this section. Any interest earned on funds in the fund must be credited to the fund.

The trust may allocate funds pursuant to subsection 1, paragraphs C, D and F from the fund to most effectively meet the objectives of the triennial plan pursuant to section 10104, subsection 4.

[2011, c. 637, §8 (AMD) .]

3. Report. The trust shall report by December 1st of each year to the joint standing committee of the Legislature having jurisdiction over utilities and energy matters on the fund. The report must include:

A. A description of actions taken by the trust pursuant to subsections 1 and 2 during the prior 12 months; [2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF).]

B. An accounting of total deposits into and expenditures from the fund during the prior 12 months; and [2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF).]

C. A description of any research and development or community demonstration project that received a distribution from the fund during the prior 12 months, including its objectives, current status and results. [2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF).]

[2009, c. 565, §7 (NEW); 2009, c. 565, §9 (AFF) .]

4. **Rulemaking.** The trust shall adopt rules to implement this section. The rules must include, but are not limited to:

A. Selection criteria for the competitive bid process pursuant to subsection 1, paragraphs C and D, including, but not limited to, the cost-effectiveness of the project or development and the likelihood that the renewable energy technology will be adopted on a broader scale in this State; and [2011, c. 314, §4 (NEW).]

B. Qualification criteria for rebates for energy efficiency and renewable energy technologies pursuant to subsection 1, paragraph F, including, but not limited to, cost-effectiveness and quality assurance requirements. [2011, c. 637, §8 (AMD).]

Rules adopted under this subsection are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A.

[2011, c. 637, §8 (AMD) .]

SECTION HISTORY
2009, c. 565, §7 (NEW). 2009, c. 565, §9 (AFF). 2011, c. 314, §§2-4 (AMD). 2011, c. 637, §8 (AMD).

§10122. HEALTH CARE FACILITY PROGRAM

The trust shall develop and implement a process to review projects undertaken by health care facilities that are directed solely at reducing energy costs through energy efficiency, renewable energy technology or smart grid technology and to certify those projects that are likely to be cost-effective. If a project is certified as likely to be cost-effective by the trust, the review process serves as an alternative to the certificate of need process established pursuant to Title 22, section 329, subsection 3. [2011, c. 424, Pt. A, §6 (NEW); 2011, c. 424, Pt. E, §1 (AFF).]

SECTION HISTORY
2011, c. 424, Pt. A, §6 (NEW). 2011, c. 424, Pt. E, §1 (AFF).

§10123. SCHOOL ENERGY SAVINGS PROGRAM

To the extent funds are available, the trust shall develop a program to provide energy savings improvements to kindergarten to grade 12 schools, including charter schools and private schools. Under this program, the trust may: [2013, c. 366, §1 (NEW).]

1. **Energy audits.** Provide incentives and technical support for an energy audit of a school facility;

[2013, c. 366, §1 (NEW) .]

2. **Energy measures.** Provide financial assistance for energy measures identified in an energy audit as likely to achieve total savings within 10 years that are greater than the total costs of the measures; and

[2013, c. 366, §1 (NEW) .]

3. **School payments.** Accept payments from schools, including, but not limited to, payments equal to or less than the value on monthly energy bills of the energy savings as a result of the energy measures. These payments may include costs to develop and oversee the project, administer the program and service loans.

[2013, c. 366, §1 (NEW) .]

SECTION HISTORY
2013, c. 366, §1 (NEW).

§702. UNJUST DISCRIMINATION

1. **Unjust discrimination.** It is unlawful for a public utility to give any undue or unreasonable preference, advantage, prejudice or disadvantage to a particular person.

[1987, c. 141, Pt. A, §6 (NEW) .]

2. **Solar energy.** No public utility providing electric or gas service may consider the use of solar energy by a customer as a basis for establishing higher rates or charges for energy or service sold to the customer.

[1987, c. 141, Pt. A, §6 (NEW) .]

3. **Service and facilities.** Every public utility providing transmission and distribution or gas service, upon reasonable notice, shall furnish to all persons who may apply for facilities and service, suitable facilities and service consistent with policies approved or established by the commission, without undue delay and without unreasonable discrimination.

[1999, c. 398, Pt. A, §17 (AMD); 1999, c. 398, Pt. A, §§104, 105 (AFF) .]

SECTION HISTORY
1987, c. 141, §A6 (NEW). 1999, c. 398, §A17 (AMD). 1999, c. 398, §§A104,105 (AFF).

Title 38: WATERS AND NAVIGATION

Chapter 24: SOLID WASTE MANAGEMENT AND RECYCLING

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Subchapter 1: GENERAL PROVISIONS

§2101. SOLID WASTE MANAGEMENT HIERARCHY

1. **Priorities.** It is the policy of the State to plan for and implement an integrated approach to solid waste management for solid waste generated in this State and solid waste imported into this State, which must be based on the following order of priority:

A. Reduction of waste generated at the source, including both amount and toxicity of the waste; [1989, c. 585, Pt. A, §7 (NEW).]

B. Reuse of waste; [1989, c. 585, Pt. A, §7 (NEW).]

C. Recycling of waste; [1989, c. 585, Pt. A, §7 (NEW).]

D. Composting of biodegradable waste; [1989, c. 585, Pt. A, §7 (NEW).]

E. Waste processing that reduces the volume of waste needing land disposal, including incineration; and [2007, c. 583, §7 (AMD).]

F. Land disposal of waste. [1989, c. 585, Pt. A, §7 (NEW).]

It is the policy of the State to use the order of priority in this subsection as a guiding principle in making decisions related to solid waste management.

[2007, c. 583, §7 (AMD) .]

2. **Waste reduction and diversion.** It is the policy of the State to actively promote and encourage waste reduction measures from all sources and maximize waste diversion efforts by encouraging new and expanded uses of solid waste generated in this State as a resource.

[2007, c. 192, §2 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 2007, c. 192, §2 (AMD). 2007, c. 583, §7 (AMD).

§2101-A. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings. [1995, c. 465, Pt. A, §28 (NEW); 1995, c. 465, Pt. C, §2 (AFF).]

1. **Agency.**

[1995, c. 656, Pt. A, §34 (RP) .]

2. **Office.**

[2011, c. 655, Pt. GG, §70 (AFF); 2011, c. 655, Pt. GG, §27 (RP) .]

3. **Bureau.** "Bureau" means the Bureau of General Services within the Department of Administrative and Financial Services as authorized pursuant to Title 5, section 1742.

[2011, c. 655, Pt. GG, §28 (NEW); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1995, c. 465, §A28 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A34 (AMD). 2011, c. 655, Pt. GG, §§27, 28 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2101-B. FOOD RECOVERY HIERARCHY

1. **Priorities.** It is the policy of the State to support the solid waste management hierarchy in section 2101 by preventing and diverting surplus food and food scraps from land disposal or incineration in accordance with the following order of priority:

A. Reduction of the volume of surplus food generated at the source; [2015, c. 461, §1 (NEW).]

B. Donation of surplus food to food banks, soup kitchens, shelters and other entities that will use surplus food to feed hungry people; [2015, c. 461, §1 (NEW).]

C. Diversion of food scraps for use as animal feed; [2015, c. 461, §1 (NEW).]

D. Utilization of waste oils for rendering and fuel conversion, utilization of food scraps for digestion to recover energy, other waste utilization technologies and creation of nutrient-rich soil amendments through the composting of food scraps; and [2015, c. 461, §1 (NEW).]

E. Land disposal or incineration of food scraps. [2015, c. 461, §1 (NEW).]

[2015, c. 461, §1 (NEW) .]

2. **Guiding principle.** It is the policy of the State to use the order of priority in this section, in conjunction with the order of priority in section 2101, as a guiding principle in making decisions related to solid waste and organic materials management.

[2015, c. 461, §1 (NEW) .]

SECTION HISTORY
2015, c. 461, §1 (NEW).

§2102. ESTABLISHMENT OF THE MAINE WASTE MANAGEMENT AGENCY

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A29 (RP).

§2103. POWERS AND DUTIES OF THE AGENCY

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 890, §§A40,B288 (AMD). 1991, c. 517, §§B5,6 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A30 (RP).

§2104. WASTE MANAGEMENT ADVISORY COUNCIL

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2105. PAYMENT IN LIEU OF TAXES

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2106. ANNUAL AUDIT

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2107. STAFF EMPLOYEES; CONFLICT OF INTEREST

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2108. INDEMNIFICATION

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2109. SUNSET

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2110. CONFIDENTIAL INFORMATION

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A31 (RP).

§2111. ACQUISITION OF SOLID WASTE AND RESIDUE HAULING ASSETS

(REPEALED)

SECTION HISTORY
1999, c. 773, §1 (NEW). 2001, c. 42, §§1,2 (AMD).

§2112. SMALL CONTAINER CONTRACT RESTRICTIONS

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Small container" means a 2- to 10-cubic-yard container or dumpster. [2003, c. 338, §1 (NEW).]

B. "Small containerized solid waste hauling service" means providing solid waste hauling service to customers by providing the customer with a small container or dumpster that is picked up and emptied mechanically using a front-loading or rear-loading truck. "Small containerized solid waste hauling service" does not include hand pickup service or service using a compactor that is attached to or part of a small container. [2003, c. 338, §1 (NEW).]

C. "Solid waste hauling service" means the collection, removal and transportation to a solid waste transfer station or disposal site of trash and garbage. As used in this paragraph, trash and garbage do not include construction and demolition debris, medical waste, hazardous waste, organic waste, special waste such as contaminated soil or sludge or recyclable materials. [2003, c. 338, §1 (NEW).]

[2003, c. 338, §1 (NEW) .]

2. **Contracts.** Contracts for the provision of small containerized solid waste hauling service to customers located in this State are governed by the following provisions.

A. If a contract under this subsection contains an automatic renewal provision, the contractor shall notify the customer by mail between 60 and 90 days prior to the contract termination date that if the customer does not, within 60 days of receipt of the contractor's notification, notify the contractor of the customer's intention to terminate the contract, the contract will be automatically renewed. Notice of termination by the customer may be by any reasonable method, including mail, electronically transmitted facsimile and e-mail. A contract may not contain terms that require a customer to provide notice of termination prior to the time frames provided for in this paragraph. [2003, c. 338, §1 (NEW).]

B. The financial charge for early termination of a contract under this subsection may not exceed 3 times the current monthly charge. [2003, c. 338, §1 (NEW).]

C. A contract under this subsection may not require the customer to inform a contractor concerning prices or other terms offered by competitors or require the customer to afford the contractor an opportunity to match or respond to a competitor's offer. [2003, c. 338, §1 (NEW).]

[2005, c. 220, §1 (AMD) .]

SECTION HISTORY
2003, c. 338, §1 (NEW). 2005, c. 220, §1 (AMD).

Subchapter 2: SOLID WASTE PLANNING

§2121. OFFICE OF PLANNING

(REPEALED)

SECTION HISTORY

1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A33 (RP).

§2122. STATE WASTE MANAGEMENT AND RECYCLING PLAN

The department shall prepare an analysis of, and a plan for, the management, reduction and recycling of solid waste for the State. The plan must be based on the priorities and recycling goals established in sections 2101 and 2132. The plan must provide guidance and direction to municipalities in planning and implementing waste management and recycling programs at the state, regional and local levels. [2011, c. 655, Pt. GG, §29 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Consultation.** In developing the state plan the department shall solicit public input and may hold hearings in different regions of the State.

[2011, c. 655, Pt. GG, §29 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Revisions.** The department shall revise the analysis by January 1, 2014 and every 5 years after that time to incorporate changes in waste generation trends, changes in waste recycling and disposal technologies, development of new waste generating activities and other factors affecting solid waste management as the department finds appropriate.

[2011, c. 655, Pt. GG, §29 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 528, §E40 (AMD). 1991, c. 528, §RRR (AFF). 1991, c. 591, §E40 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A34 (RPR). 1995, c. 588, §2 (AMD). 2011, c. 655, Pt. GG, §29 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2123. PLAN CONTENTS

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 517, §C1 (AMD). 1993, c. 310, §A3 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A35 (RP).

§2123-A. STATE PLAN CONTENTS

The state plan includes the following elements. [1995, c. 465, Pt. A, §36 (NEW); 1995, c. 465, Pt. C, §2 (AFF).]

1. **Waste characterization.** The state plan must be based on a comprehensive analysis of solid waste generated, recycled and disposed of in the State. Data collected must include, but not be limited to, the source, type and amount of waste currently generated; and the costs and types of waste management employed including recycling, composting, landspreading, incineration or landfilling.

[1995, c. 465, Pt. A, §36 (NEW); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Waste reduction and recycling assessment.** The state plan must include an assessment of the extent to which waste generation could be reduced at the source and the extent to which recycling can be increased.

[1995, c. 465, Pt. A, §36 (NEW); 1995, c. 465, Pt. C, §2 (AFF) .]

3. **Determination of existing and potential disposal capacity.** The state plan must identify existing solid waste disposal and management capacity within the State and the potential for expansion of that capacity.

[1995, c. 465, Pt. A, §36 (NEW); 1995, c. 465, Pt. C, §2 (AFF) .]

4. **Projected demand for capacity.** The state plan must identify the need in the State for current and future solid waste disposal capacity by type of solid waste, including identification of need over the next 5-year, 10-year and 20-year periods.

[1995, c. 465, Pt. A, §36 (NEW); 1995, c. 465, Pt. C, §2 (AFF) .]

SECTION HISTORY
1995, c. 465, §A36 (NEW). 1995, c. 465, §C2 (AFF).

§2123-B. REVIEW OF POLICY

(REPEALED)

SECTION HISTORY
1995, c. 588, §3 (NEW). 1999, c. 527, §1 (AMD). 2007, c. 192, §3 (RP).

§2123-C. SOLID WASTE MANAGEMENT ADVISORY COUNCIL

(REPEALED)

SECTION HISTORY
2007, c. 192, §4 (NEW). 2011, c. 655, Pt. EE, §30 (AFF). 2011, c. 655, Pt. EE, §26 (RP).

§2124. REPORTS

The department shall submit the plan and subsequent revisions to the Governor and the joint standing committee of the Legislature having jurisdiction over natural resource matters. [2011, c. 655, Pt. GG, §30 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A37 (AMD). 1995, c. 465, §C2 (AFF). 2011, c. 655, Pt. GG, §30 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2124-A. SOLID WASTE GENERATION AND DISPOSAL CAPACITY REPORT

By January 1, 2020 and biennially thereafter, the department shall submit a report to the joint standing committee of the Legislature having jurisdiction over environmental and natural resources matters and the Governor setting forth information on statewide generation of solid waste, statewide recycling rates and available disposal capacity for solid waste. [2017, c. 376, §2 (AMD).]

The report submitted under this section must include an analysis of how changes in available disposal capacity have affected or are likely to affect disposal prices. When the department determines that a decline in available landfill capacity has generated or has the potential to generate supracompetitive prices, the department shall include this finding in its report and shall include recommendations for legislative or regulatory changes as necessary. [2011, c. 655, Pt. GG, §31 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

The report submitted under this section must include an analysis of how the rate of fill at each solid waste landfill has affected the expected lifespan of that solid waste landfill and an analysis of consolidation of ownership in the disposal, collection, recycling and hauling of solid waste. [2013, c. 300, §19 (AMD).]

The joint standing committee of the Legislature having jurisdiction over solid waste matters may report out legislation related to the report submitted pursuant to this section. [2007, c. 583, §8 (NEW).]

SECTION HISTORY
1995, c. 588, §4 (NEW). 2003, c. 338, §2 (AMD). 2007, c. 192, §5 (AMD). 2007, c. 583, §8 (AMD). 2011, c. 655, Pt. GG, §31 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2013, c. 300, §§19, 20 (AMD). 2017, c. 376, §2 (AMD).

§2125. EVALUATION OF MUNICIPAL IMPLEMENTATION OF SOLID WASTE MANAGEMENT HIERARCHY

(REPEALED)

SECTION HISTORY
RR 1993, c. 1, §136 (COR). 1993, c. 298, §1 (NEW). 1995, c. 465, §A38 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A35 (RP).

Subchapter 3: WASTE REDUCTION AND RECYCLING

§2131. OFFICE OF WASTE REDUCTION AND RECYCLING; ESTABLISHED

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A40 (RP).

§2132. STATE GOALS

1. **State recycling goal.** It is the goal of the State to recycle or compost, by January 1, 2021, 50% of the municipal solid waste tonnage generated each year within the State.

[2015, c. 461, §2 (AMD) .]

1-A. **State waste reduction goal.**

[2015, c. 461, §3 (RP) .]

1-B. **State waste disposal reduction goal.** It is the goal of the State to reduce the statewide per capita disposal rate of municipal solid waste tonnage to 0.55 tons disposed per capita by January 1, 2019 and to further reduce the statewide per capita disposal rate by an additional 5% every 5 years thereafter. The baseline for calculating this reduction is the 2014 solid waste generation and disposal capacity data gathered by the department.

[2015, c. 461, §4 (NEW) .]

2. **Goal revision.** The department shall recommend revisions, if appropriate, to the state recycling goal and waste disposal reduction goal established in this section. The department shall submit its recommendations and any implementing legislation to the joint standing committee of the Legislature having jurisdiction over natural resource matters.

[2015, c. 461, §5 (AMD) .]

3. **Beneficial use of waste.** The use of waste paper, waste plastics, waste wood, including wood from demolition debris, used motor vehicle tires or corrugated cardboard as a fuel in industrial boilers or waste-to-energy facilities for the generation of heat, steam or electricity constitutes recycling only for the purposes of determining whether the goals in subsection 1 are met and for determining municipal progress as provided in section 2133. In order for the use of waste under this subsection to constitute recycling, the department must determine that there is no reasonably available market in the State for recycling that waste and the wastes must be incinerated as a substitute for, or supplement to, fossil or biomass fuels incinerated in the industrial boiler or waste-to-energy facility.

[2011, c. 655, Pt. GG, §32 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

4. **Reduction in dioxin.** It is the policy of the State to reduce the total release of dioxin and mercury to the environment with the goal of its continued minimization and, where feasible, ultimate elimination.

[2001, c. 277, §3 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 492, §3 (AMD). 1991, c. 517, §B7 (AMD). 1995, c. 23, §1 (AMD). 1995, c. 465, §§A41,42 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 552, §1 (AMD). 2001, c. 22, §§2,3 (AMD). 2001, c. 277, §3 (AMD). 2005, c. 220, §§2-4 (AMD). 2011, c. 655, Pt. GG, §32 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2015, c. 461, §§2-5 (AMD).

§2133. MUNICIPAL RECYCLING

1. **Technical and financial assistance program.**

[1995, c. 465, Pt. A, §43 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

1-A. **Recycling progress.** Municipalities are not required to meet the state recycling goal in section 2132, but they must demonstrate reasonable progress toward that goal. The department shall determine reasonable progress.

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Recycling feasibility studies.**

[1995, c. 465, Pt. A, §45 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

2-A. **Assistance with managing solid waste.** The department shall assist municipalities with managing solid waste. The department may also provide planning assistance to municipalities and regional organizations for managing municipal solid waste. Planning assistance may include cost and capacity analysis and education and outreach activities. The department shall provide assistance pursuant to this subsection in accordance with the waste management hierarchy in section 2101. Preference in allocating resources under this section must be given to municipalities that take advantage of regional economies of scale.

[2013, c. 300, §21 (AMD) .]

2-B. **Household hazardous waste collection.** The department may, within available resources, award grants to eligible municipalities, regional associations, sanitary districts and sewer districts for household hazardous waste collection and disposal programs. In implementing this program, the department shall attempt to:

A. Coordinate the household hazardous waste collection programs with overall recycling and waste management; [1995, c. 465, Pt. A, §46 (NEW); 1995, c. 465, Pt. C, §2 (AFF).]

B. Encourage regional economies of scale; [1995, c. 465, Pt. A, §46 (NEW); 1995, c. 465, Pt. C, §2 (AFF).]

C. Coordinate programs between private and public institutions; [1999, c. 779, §3 (AMD).]

D. Maximize opportunities for federal grants and pilot programs; and [1999, c. 779, §3 (AMD).]

E. By January 1, 2002 and as necessary thereafter, fund capital improvements and operating expenses to facilitate the development of collection programs throughout the State for hazardous waste that is universal waste, as identified in board rules, generated by households, small-quantity generators, public schools and municipalities. [1999, c. 779, §3 (NEW).]

At a minimum, the department shall award grants to public schools and municipalities for reasonable costs incurred as a result of managing waste mercury-added products generated by those public schools and municipalities, in compliance with the requirements in sections 1663 and 1664, that would not otherwise be incurred by complying with existing laws, rules or regulations as of July 15, 2002.

[2013, c. 300, §22 (AMD) .]

2-C. **Business technical assistance program.** The department may, as resources allow, assist the business community to develop state programs and services that are designed to promote the solid waste hierarchy and that are desired by and financially supported by the business community. The department shall coordinate these efforts in conjunction with the department.

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2-D. **Preference for other state grants and investments.**

[2013, c. 300, §23 (RP) .]

3. **Recycling capital investment grants.** The department may make grants to eligible municipalities, regional associations, sanitary districts and sewer districts for the construction of public recycling and composting facilities and the purchase of recycling and composting equipment. The department may establish requirements for local cost sharing of up to 50% of the total grant amount.

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

4. **Recycling incentives.** The department shall develop and implement a program of incentives to encourage public recycling programs to reach maximum feasible levels of recycling and to meet the recycling goal of section 2132.

A. [1993, c. 298, §2 (RP).]

B. [1995, c. 465, Pt. A, §48 (RP); 1995, c. 465, Pt. C, §2 (AFF).]

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

5. **Access to state waste disposal services.**

[1995, c. 465, Pt. A, §49 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

6. **Recycling demonstration grants.** The department may make demonstration grants to eligible municipalities, regional associations or other public organizations to pilot waste reduction, recycling and composting programs and to test their effectiveness and feasibility.

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

7. **Recycling progress reports.** Municipalities shall report annually, on forms provided by the department, on their solid waste management and recycling practices. The annual report must include how much of each type of solid waste is generated and how that solid waste is managed. The department shall assist municipal reporting by developing a municipal waste stream assessment model. The model must rely on actual waste data whenever possible, but incorporate default generation estimates when needed. Default generation estimates must incorporate factors such as commercial activity, geographical differences and municipal population.

[2011, c. 655, Pt. GG, §33 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 517, §§B8-11 (AMD). 1993, c. 298, §2 (AMD). 1995, c. 465, §§A43-50 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §§A36-38 (AMD). 1997, c. 672, §4 (AMD). 1999, c. 385, §§4,5 (AMD). 1999, c. 779, §3 (AMD). 2001, c. 626, §21 (AMD). 2003, c. 567, §§1,2 (AMD). 2011, c. 655, Pt. GG, §33 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2013, c. 300, §§21-23 (AMD).

§2134. MARKETING ASSISTANCE

The department shall provide marketing assistance, which may include the following elements:
[2011, c. 655, Pt. GG, §34 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Collection.**

[1995, c. 465, Pt. A, §51 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Incentive program.**

[1995, c. 465, Pt. A, §51 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

3. **Information clearinghouse.** An information clearinghouse on recycling markets to improve the marketing of materials to be recycled. The department shall maintain a current list of municipal recycling programs, together with a description of the recyclable materials available through the programs. The department shall also maintain listings of brokers, handlers, processors, transporters and other persons providing services and potential markets for recyclable materials. The department shall actively promote the services of the clearinghouse and shall seek to match programs with appropriate recycling businesses. The department shall make its information on recycling services available to public and private solid waste generators seeking markets or services for recyclable materials. The department shall make its technical reports and planning documents available to municipalities and regional associations on a timely basis; and

[2011, c. 655, Pt. GG, §35 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

4. **Brokering service.** Provision for marketing and brokering services for materials when municipal and regional association efforts to market the material and the information clearinghouse are inadequate.

[1995, c. 656, Pt. A, §39 (AMD) .]

5. **Marketing development plan.**

[1995, c. 465, Pt. A, §51 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

6. **Reuse of waste.**

[1995, c. 656, Pt. A, §39 (RP) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A51 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A39 (AMD). 2011, c. 655, Pt. GG, §§34, 35 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2135. SPECIAL SERVICES

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A52 (RP).

§2135-A. TIRE MANAGEMENT PROGRAM

(REPEALED)

SECTION HISTORY
1991, c. 517, §A3 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A53 (RP).

§2136. SCRAP METAL TRANSPORTATION COST SUBSIDY

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A54 (RP).

§2137. STATE GOVERNMENT RECYCLING AND WASTE REDUCTION

The Department of Administrative and Financial Services shall assess the status of recycling efforts undertaken directly by the State for its own solid waste and shall evaluate existing programs and develop necessary new programs for recycling to reduce the generation of solid waste by the State. [1995, c. 656, Pt. A, §40 (AMD).]

1. **Waste reduction and recycling plan.**

[1995, c. 465, Pt. A, §55 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Capitol complex recycling program.**

[1995, c. 465, Pt. A, §55 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

3. **Recycling.** Each state agency shall establish and implement a source separation and collection program for recyclable materials produced as a result of agency operations, including, at a minimum, high grade paper and corrugated paper. The source separation and collection program must include, at a minimum, procedures for collecting and storing recyclable materials, bins or containers for storing materials, and contractual and other arrangements with buyers. Each agency shall appoint a recycling coordinator for every 50 employees at a minimum and shall conduct educational programs for its employees on the recycling program.

[1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

4. **Waste reduction.** Each state agency shall establish and implement a waste reduction program for materials used in the course of agency operations. The program must be designed and implemented to achieve the maximum feasible reduction of waste generated as a result of agency operations.

[1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

5. **University of Maine System.** The following provisions apply to the University of Maine System.

A. [1995, c. 465, Pt. A, §55 (RP); 1995, c. 465, Pt. C, §2 (AFF).]

B. Each campus of the University of Maine System shall establish and implement a source separation and collection program for recyclable materials, including at a minimum high grade paper, corrugated paper and glass. The source separation and collection program must include procedures for collecting and storing recyclable materials, bins or containers for storing materials and contractual and other arrangements with buyers. Each campus shall appoint a recycling coordinator and shall conduct educational programs for students and employees on the recycling program. [1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

C. Each campus of the University of Maine System shall establish and implement a waste reduction program for materials used in the course of its operations. The program must be designed and implemented to achieve the maximum feasible reduction of waste. [1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

D. Each campus of the University of Maine System shall establish a leaf composting program. [1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

E. Each campus of the University of Maine System shall assess the status of its recycling efforts, evaluate existing programs and, within available resources, develop necessary new programs for recycling to reduce the generation of solid waste by the campus. [1995, c. 465, Pt. A, §55 (NEW); 1995, c. 465, Pt. C, §2 (AFF).]

[1995, c. 465, Pt. A, §55 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A55 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A40 (AMD).

§2137-A. FOOD RECOVERY DATABASE

The department, as resources allow and in consultation with other state agencies, municipalities, counties, businesses and other public or private entities, shall develop and maintain on its publicly accessible website a food recovery database as described in this section. [2017, c. 369, §1 (NEW).]

1. **Contents.** The department may include in the database required under this section guidance documents, model policies, program resources and other educational and technical materials relevant to food recovery and food waste reduction efforts that may be implemented by government entities, counties, municipalities, educational institutions, businesses and members of the public, including, but not limited to:

A. Materials relating to the alignment of the food purchasing practices of public and private entities with the demands and consumption habits of the individual consumers those entities serve; [2017, c. 369, §1 (NEW).]

B. Materials relating to the development and implementation of programs for the sharing of surplus or leftover food, including, but not limited to, share tables and food donation practices and programs; [2017, c. 369, §1 (NEW).]

C. Materials relating to the diversion of food scraps and other food waste not suitable for human consumption for use as animal feed; and [2017, c. 369, §1 (NEW).]

D. Materials relating to the handling, transportation and processing of organic waste materials for the purpose of composting or the generation of energy through an anaerobic digestion process, including, but not limited to, guidance documents relating to the establishment of on-site composting programs by public or private entities and a list of the businesses and other entities in the State that accept for processing or process organic materials for composting or energy generation. [2017, c. 369, §1 (NEW).]

[2017, c. 369, §1 (NEW) .]

2. **Maintenance and updates.** The department, as resources allow, shall maintain and periodically review and update the materials in the database required under this section to reflect changes in relevant state or federal laws, regulations or rules or in industry practices or to include any new materials relevant to the purpose of the database that have been developed by the department or by other entities.

[2017, c. 369, §1 (NEW) .]

SECTION HISTORY
2017, c. 369, §1 (NEW).

§2138. OFFICE PAPER RECYCLING PROGRAM

1. **Office paper recycling mandated.** Any person employing 15 or more people at a site within the State shall implement an office paper and corrugated cardboard recycling program.

A. [1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF).]

B. [1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF).]

C. [1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF).]

The department may provide technical and marketing assistance and direction to entities within the State to assist with meeting this requirement. Municipalities and regional associations may assist employers in attaining the objectives of this section.

[2011, c. 655, Pt. GG, §36 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Office paper.** For the purposes of this section, "office paper" includes, but is not limited to, ledger, computer and bond paper.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Certification of tax credit.**

[2011, c. 548, §34 (RP) .]

4. Technical and financial assistance programs.

[1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

5. Industrial waste reduction.

[1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

6. Beneficial use of office paper.

[1995, c. 465, Pt. A, §56 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 492, §4 (AMD). 1995, c. 465, §A56 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A41 (AMD). 2011, c. 548, §34 (AMD). 2011, c. 655, Pt. GG, §36 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2139. PUBLIC EDUCATION

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 700, §A170 (AMD). 1995, c. 465, §A57 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A42 (RP).

§2140. INTERSTATE AND NATIONAL INITIATIVES

The department may participate in interstate and national initiatives to adopt uniform state laws when practicable, and to enter compacts between the State and other states for the improved management, recycling and reduction of solid waste. [2011, c. 655, Pt. GG, §37 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A43 (AMD). 2011, c. 655, Pt. GG, §37 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2141. WASTE REDUCTION AND RECYCLING LABELING PROGRAM

(REPEALED)

SECTION HISTORY
1991, c. 463, (NEW). 1991, c. 644, §§2-4 (AMD). 1993, c. 310, §A4 (RP).

§2142. ADVERTISING AND MARKETING CLAIMS; WASTE REDUCTION AND RECYCLING

A person who labels, advertises or promotes a product in violation of guidelines for the use of environmental marketing claims published by the Federal Trade Commission in 16 Code of Federal Regulations, Part 260 (1993), as amended, commits a violation of the Maine Unfair Trade Practices Act. [1993, c. 310, Pt. A, §5 (NEW).]

SECTION HISTORY
1993, c. 310, §A5 (NEW).

§2143. CELLULAR TELEPHONE RECYCLING

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Cellular telephone" means a mobile wireless telephone device that is designed to send or receive transmissions through a cellular radiotelephone service as defined in 47 Code of Federal Regulations, Section 22.99 (2005). "Cellular telephone" does not include a wireless telephone device that is integrated into the electrical architecture of a motor vehicle. [2007, c. 343, §1 (NEW).]

B. "Cellular telephone service provider" means a provider of wireless voice or data retail service. [2007, c. 343, §1 (NEW).]

C. "Retailer" means a person, firm or corporation that sells or offers to sell a cellular telephone to a consumer at retail. [2007, c. 343, §1 (NEW).]

[2007, c. 343, §1 (NEW) .]

2. **Collection system.** Effective January 1, 2008, a retailer shall accept, at no charge, used cellular telephones from any person. A retailer required to accept used cellular telephones under this subsection shall post, in a prominent location open to public view, a notice printed in boldface type and containing the following language: "We accept used cellular telephones at no charge."

[2007, c. 343, §1 (NEW) .]

3. **Disposal ban.** Effective January 1, 2008, a person may not dispose of a cellular telephone in solid waste for disposal in a solid waste disposal facility.

[2007, c. 343, §1 (NEW) .]

4. **Reports.** By January 1, 2009, and every year thereafter, a cellular telephone service provider shall report to the department the number of cellular telephones collected pursuant to this section and how the collected cellular telephones were disposed of, reused or recycled. Annually, the department shall report on the collection system to the joint standing committee of the Legislature having jurisdiction over natural resources matters. The report may be included in the report required pursuant to section 1772, subsection 1.

[2013, c. 315, §8 (AMD) .]

SECTION HISTORY
2007, c. 343, §1 (NEW). 2013, c. 315, §8 (AMD).

§2144. STEWARDSHIP PROGRAM FOR ARCHITECTURAL PAINT

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Architectural paint" or "paint" means interior and exterior architectural coatings sold in containers of 5 gallons or less and does not mean industrial, original equipment or specialty coatings, arts and crafts paints, 2-component coatings, deck cleaners, industrial maintenance coatings, original equipment manufacturer paints and finishes, paint additives, colorants, tints, resins, roof patch and repair, tar and bitumen-based products, traffic and road marking paints, wood preservatives, ignitable paint thinners or solvents used for cleaning paint-related equipment or contaminated with architectural paint or paint thinners or solvents identified as hazardous waste in 40 Code of Federal Regulations, Section 261.31 that are used for cleaning paint-related equipment or contaminated with architectural paint. [2015, c. 331, §1 (AMD).]

A-1. "Collection container" means a container that is designed to store more than one individual container of architectural paint that meets federal Department of Transportation specifications for containing those items. [2015, c. 331, §2 (NEW).]

A-2. "Collection site" means an entity that collects post-consumer paint directly from consumers for end-of-life management and may include, but is not limited to, retailers, hardware and home improvement stores, transfer stations and operations that otherwise collect household hazardous waste. A collection site may also accept universal wastes under the rules of the department. [2015, c. 331, §2 (NEW).]

A-3. "Conditionally exempt small quantity generator" means a conditionally exempt small quantity generator as defined in 40 Code of Federal Regulations, Section 261.5. [2015, c. 331, §2 (NEW).]

B. "Consumer" means a purchaser or user of architectural paint. "Consumer" includes a purchaser or user of architectural paint who also generates post-consumer paint. [2015, c. 331, §3 (AMD).]

C. "Distributor" means a business that has a contractual relationship with one or more producers to market and sell architectural paint to retailers in the State. [2013, c. 395, §1 (NEW).]

D. "Energy recovery" means recovery in which all or a part of solid waste materials is processed in order to use the heat content or other forms of energy of or from the materials. [2013, c. 395, §1 (NEW).]

E. "Environmentally sound management practices" means procedures for the collection, storage, transportation, reuse, recycling and disposal of post-consumer paint to be implemented by a producer or a representative organization to ensure compliance with all applicable federal, state and local laws, regulations, rules and ordinances and protection of human health and the environment. Such procedures must address adequate record keeping, tracking and documenting the fate of materials within the State and beyond and adequate environmental liability coverage for professional services and for the operations of the contractors working on behalf of the producer or the representative organization. [2013, c. 395, §1 (NEW).]

F. "Final disposition" means the point beyond which no further processing takes place and paint has been transformed for direct use as a feedstock in producing new products or is disposed of, including for energy recovery, in permitted facilities. [2013, c. 395, §1 (NEW).]

G. "Paint stewardship assessment" means the amount added to the purchase price of architectural paint sold in the State necessary to cover the cost of collecting, transporting and processing post-consumer paint statewide under a paint stewardship program. [2013, c. 395, §1 (NEW).]

H. "Paint stewardship program" or "program" means a program for management of post-consumer paint to be operated by a producer or a representative organization. [2013, c. 395, §1 (NEW).]

I. "Plan" means a plan to establish a paint stewardship program. [2013, c. 395, §1 (NEW).]

J. "Population center" means an urbanized area or urban cluster as defined by the United States Department of Commerce, Bureau of the Census to identify areas of high population density and urban land use with a population of 2,500 or greater. [2013, c. 395, §1 (NEW).]

K. "Post-consumer paint" means architectural paint not used and no longer wanted by a consumer. [2013, c. 395, §1 (NEW).]

K-1. "Post-consumer paint that is a hazardous waste" means post-consumer paint that is a hazardous waste as defined in 40 Code of Federal Regulations, Part 261, Subparts C and D. [2015, c. 331, §4 (NEW).]

L. "Producer" means a manufacturer of architectural paint that sells, offers for sale, or distributes that paint in the State under the producer's own name or brand. [2013, c. 395, §1 (NEW).]

M. "Recycling" means any process by which discarded products, components and by-products are transformed into new, usable or marketable materials in a manner in which the original products may lose their identity but does not include energy recovery or energy generation by means of combusting discarded products, components and by-products with or without other waste products. [2013, c. 395, §1 (NEW).]

N. "Representative organization" means a nonprofit organization created by producers to operate a paint stewardship program. [2013, c. 395, §1 (NEW).]

O. "Retailer" means a person that offers architectural paint for sale at retail in the State. [2013, c. 395, §1 (NEW).]

P. "Reuse" means the return of a product into the economic stream for use in the same kind of application as originally intended, without a change in the product's identity. [2013, c. 395, §1 (NEW).]

Q. "Sell" or "sale" means any transfer of title for consideration, including remote sales conducted through sales outlets, catalogues or the Internet or any other similar electronic means. [2013, c. 395, §1 (NEW).]

[2015, c. 331, §§1-4 (AMD) .]

2. **Establishment of a paint stewardship program.** By April 1, 2015, a producer, a group of producers or a representative organization shall submit a plan for the establishment of a paint stewardship program to the commissioner for approval. The plan must include:

A. A description of how the program will collect, transport, recycle and process post-consumer paint from entities covered by the program for end-of-life management to meet the following goals:

(1) A reduction in the generation of unwanted paint and the promotion of its reuse and recycling;

(2) Provision of convenient and available statewide collection of post-consumer paint from entities covered by the program in all areas of the State;

(3) Management of post-consumer paint using environmentally sound management practices in an economically sound manner, including following the paint waste management hierarchy of source reduction, reuse, recycling, energy recovery and disposal;

(4) Establishment of a process for managing paint containers collected under the program, including recycling all recyclable containers;

(5) Negotiation and execution by the operator of agreements to collect, transport, reuse, recycle, burn for energy recovery and dispose of post-consumer paint using environmentally sound management practices; and

(6) Provision of education and outreach efforts by the operator to promote the program. The education and outreach efforts must include strategies for reaching consumers in all areas of the State and the method the program will use to evaluate the effectiveness of its education and outreach efforts; [2013, c. 395, §1 (NEW).]

B. Contact information for all persons that will be responsible for the operation of the paint stewardship program and a list of paint brands and producers covered under the program; [2013, c. 395, §1 (NEW).]

C. Goals as may be practical to reduce the generation of post-consumer paint, to promote the reuse and recycling of post-consumer paint, for the overall collection of post-consumer paint and for the proper end-of-life management of post-consumer paint. The goals may be revised by a representative organization based on information collected annually; [2013, c. 395, §1 (NEW).]

D. A list of all potential processors that will be used to manage post-consumer paint collected by the paint stewardship program, a list of each collection site name and location that will accept post-consumer paint under the program and a list of all processors that will be used for final disposition; [2013, c. 395, §1 (NEW).]

E. A method to determine the number and geographic distribution of paint collection sites based on the use of geographic information modeling. The plan must provide that at least 90% of state residents have a permanent paint collection site within a 15-mile radius of their residences, unless the commissioner determines that the 90% requirement is not practicable due to geographical constraints. If the commissioner determines the 90% requirement is not practicable, the commissioner may approve a plan that includes a geographic distribution of paint collection sites that is practicable. The distribution of paint collection sites must include at least one additional paint collection site for each 30,000 residents in a population center that is located to provide convenient and reasonably equitable access for residents within the population center unless otherwise approved by the commissioner; [2013, c. 395, §1 (NEW).]

F. Identification of the ways in which the program will coordinate with existing solid waste collection programs and events, including strategies to reach the State's residents that do not have a permanent paint collection site within a 15-mile radius of their residences and to ensure adequate coverage of service center communities as defined in Title 30-A, section 4301, subsection 14-A; [2013, c. 395, §1 (NEW).]

G. A time frame for accomplishing the geographical coverage required under paragraphs E and F; [2013, c. 395, §1 (NEW).]

H. An anticipated budget for operation of the paint stewardship program, including the suggested method of funding the program, which must include the method of calculating a paint stewardship assessment that meets the requirements of subsection 4; and [2015, c. 331, §5 (AMD).]

I. A description of how post-consumer paint collected under this section will be managed at each collection site, including how post-consumer paint will be labeled, provisions for secondary containment and protecting post-consumer paint from weather and a description of how subsection 5-A, paragraph G will be satisfied. [2015, c. 331, §5 (AMD).]

J. [2015, c. 331, §6 (RP).]

K. [2015, c. 331, §6 (RP).]

[2015, c. 331, §§5, 6 (AMD) .]

3. **Approval of plan.** The commissioner shall review a plan submitted under subsection 2 and make a determination of whether to approve the plan within 120 days of receipt. The commissioner shall make the plan available for public review for at least 30 days prior to making a determination of whether to approve the plan. The commissioner shall approve a plan if the commissioner determines that the plan demonstrates the ability of the paint stewardship program to meet the goals specified in subsection 2, paragraph A and meets the other requirements for submission of a plan under subsection 2. The commissioner's approval of a plan must include approval of the method by which the program will be funded. The commissioner shall require the person submitting the plan to provide an independent audit indicating the appropriateness of the proposed paint stewardship assessment.

If a plan is rejected, the commissioner shall provide the reasons for rejecting the plan to the person submitting the plan. The person submitting the plan may submit an amended plan within 60 days of a rejection.

[2013, c. 395, §1 (NEW) .]

4. **Funding of paint stewardship program.** An operator of a paint stewardship program shall administer a paint stewardship assessment for all architectural paint sold in the State. The amount of the paint stewardship assessment must be approved by the commissioner under subsection 3 and must be sufficient

to recover, but may not exceed, the cost of the paint stewardship program. If the funds generated by the program exceed the amount necessary to operate the program, excess funds must be used to reduce future paint stewardship assessments or improve services under the program.

A. A paint stewardship assessment must be added to the cost of all architectural paint sold to retailers and distributors in the State. A retailer or distributor shall add the paint stewardship assessment to the consumer's purchase price of the architectural paint sold by that retailer or distributor. A producer or a representative organization may not charge a paint stewardship assessment at the time of post-consumer paint collection. The collection of the paint stewardship assessment must commence no later than the implementation date established in subsection 5, paragraph A. [2013, c. 395, §1 (NEW).]

B. An architectural paint producer participating in a representative organization shall remit to the representative organization payment of the paint stewardship assessment for each container of architectural paint it sells in the State. [2013, c. 395, §1 (NEW).]

[2013, c. 395, §1 (NEW) .]

5. **Operation of paint stewardship program.** A paint stewardship program must be operated as follows.

A. Unless an earlier implementation date is proposed in a plan and approved by the commissioner, beginning July 1, 2015 or 3 months after a plan is approved by the commissioner under subsection 3, whichever occurs later, a producer or a representative organization shall implement the plan. If an earlier implementation date is proposed in a plan and approved by the commissioner, a producer or representative organization shall implement the plan beginning on that date. [2013, c. 483, §1 (AMD).]

B. Upon implementation of the plan, a producer may not sell or offer for sale architectural paint in the State unless the producer or a representative organization of which the producer is a member participates in a paint stewardship program. A representative organization shall notify the department of all producers participating in a paint stewardship program operated by the representative organization. [2013, c. 395, §1 (NEW).]

C. A producer or a representative organization shall provide consumers and retailers with educational materials regarding the paint stewardship assessment and paint stewardship program. Such materials must include, but are not limited to, information regarding available end-of-life management options for architectural paint offered through the paint stewardship program, promoting waste prevention, reuse and recycling and notifying consumers that a charge for the operation of the paint stewardship program is included in the purchase price of all architectural paint sold in the State. These materials may include, but are not limited to, the following:

(1) Signage that is prominently displayed and easily visible to the consumer;

(2) Printed materials and templates of materials for reproduction by retailers to be provided to the consumer at the time of purchase or delivery;

(3) Advertising or other promotional materials that include references to the paint stewardship program; and

(4) A manual for paint retailers providing collection site procedures to ensure the use of environmentally sound management practices when handling architectural paints. [2013, c. 395, §1 (NEW).]

D. A producer or a representative organization that organizes the collection, transportation and processing of post-consumer paint, in accordance with a paint stewardship program, is immune from liability for any claim of a violation of antitrust, restraint of trade or unfair trade practice, including claims pursuant to Title 10, chapter 201, arising from conduct undertaken in accordance with the paint stewardship program. [2013, c. 395, §1 (NEW).]

E. By October 15, 2016, and annually thereafter, the operator of a paint stewardship program shall submit a report to the commissioner regarding the paint stewardship program. If implementation of a plan begins before December 31, 2014, the commissioner may establish an earlier date for submission of the initial report. The report must include, but is not limited to:

(1) A description of the methods used to collect, transport, reduce, reuse and process post-consumer paint in the State;

(2) The volume of post-consumer paint collected in the State;

(3) The volume and type of post-consumer paint collected in the State by method of disposition, including reuse, recycling and other methods of processing;

(4) The total cost of implementing the paint stewardship program, as determined by an independent financial audit funded from the paint stewardship assessment. The report of total cost must include a breakdown of administrative, collection, transportation, disposition and communication costs;

(5) A summary of outreach and educational activities undertaken and samples of educational materials provided to consumers of architectural paint;

(6) The total volume of post-consumer paint collected by the paint stewardship program and a breakdown of the volume collected at each collection site;

(7) Based on the paint stewardship assessment collected by the paint stewardship program, the total volume of architectural paint sold in the State during the preceding year;

(8) A list of all processors, including recyclers and disposers, used to manage post-consumer paint collected by the paint stewardship program in the preceding year up to the paint's final disposition, the volume each processor accepted and the disposition method used by each processor; and

(9) An evaluation of the effectiveness of the paint stewardship program compared to prior years and anticipated steps, if any are needed, to improve performance throughout the State. [2015, c. 331, §7 (AMD).]

F. Reports submitted to the department under this section must be made available to the public on the department's publicly accessible website, except that proprietary information submitted to the department in a plan, in an amendment to a plan or pursuant to reporting requirements of this section that is identified by the submittor as proprietary information is confidential and must be handled by the department in the same manner as confidential information is handled under section 1310-B.

As used in this paragraph, "proprietary information" means information that is a trade secret or production, commercial or financial information the disclosure of which would impair the competitive position of the submittor and would make available information not otherwise publicly available. [2013, c. 395, §1 (NEW).]

G. A producer or representative organization shall submit to the department for approval a request to amend an approved plan if the producer or representative organization proposes to:

(1) Change the paint stewardship assessment;

(2) Cover an additional product under the plan; or

(3) Modify the goals of the plan. [2013, c. 395, §1 (NEW).]

[2013, c. 483, §§1, 2 (AMD); 2015, c. 331, §7 (AMD) .]

5-A. **Requirements for collection sites.** This subsection applies to collection sites.

A. Within 30 days of commencement of an approved paint stewardship program, a producer or representative organization shall notify the department of the name and location of each collection site added to or deleted from the list of collection sites provided under subsection 2, paragraph D. [2015, c. 331, §8 (NEW).]

B. A collection site shall track all outgoing shipments of post-consumer paint on a manifest or a bill of lading. The collection site shall maintain these records for at least 3 years. [2015, c. 331, §8 (NEW).]

C. A collection site shall maintain a record for each drop-off of post-consumer paint that is a hazardous waste from an entity other than a household, including the name and address of the entity, the date of the drop-off and a description and quantity of the post-consumer paint that is a hazardous waste. The collection site shall maintain these records for at least 3 years. [2015, c. 331, §8 (NEW).]

D. A collection site shall store post-consumer paint in structurally sound collection containers that show no visible evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions, in a secure area, away from ignition sources, storm drains and floor drains. A collection container must be kept closed except when adding containers of post-consumer paint that have been collected from consumers. A collection container must be labeled with the words "Waste Paint." A collection site may not store more than 5,000 kilograms of post-consumer paint that is a hazardous waste at any one time. A collection site may store collected post-consumer paint that is a hazardous waste for up to one year. [2015, c. 331, §8 (NEW).]

E. A collection site may accept post-consumer paint that is a hazardous waste only from households and from conditionally exempt small quantity generators. [2015, c. 331, §8 (NEW).]

F. A collection site shall immediately contain and clean up any discharge or release of post-consumer paint that is a hazardous waste. [2015, c. 331, §8 (NEW).]

G. A collection site shall limit its activities to the collection and storage of post-consumer paint, except that transfer stations and operations that otherwise collect household hazardous waste may remove post-consumer paint that is a hazardous waste from the paint's original container and mix or consolidate that paint, as long as all transfer and mixing or consolidation activities are conducted over secondary containment and as long as any discharges or releases of hazardous waste, as defined in 40 Code of Federal Regulations, Part 261, Subparts C and D, are contained and cleaned up to the department's satisfaction. [2015, c. 331, §8 (NEW).]

H. A collection site shall ensure that it receives training from the producer or representative organization that implements the paint stewardship program on how to properly inspect and store post-consumer paint and shall maintain training manuals issued by the producer or representative organization. [2015, c. 331, §8 (NEW).]

I. A collection site shall ship post-consumer paint that is a hazardous waste to a universal waste consolidation facility or to a recycling, treatment, storage or disposal facility that is authorized to receive universal waste. [2015, c. 331, §8 (NEW).]

J. A collection site that accepts only post-consumer paint and post-consumer paint that is a hazardous waste under an approved plan from households and from conditionally exempt small quantity generators is not a central accumulation facility and does not require a hazardous waste identification number from the federal Environmental Protection Agency. Nothing in this section is intended to exempt a collection site from being considered a central accumulation facility or from being required to obtain a hazardous waste identification number based on activities unrelated to a paint stewardship program. [2015, c. 331, §8 (NEW).]

[2015, c. 331, §8 (NEW) .]

6. **Administration and enforcement of program.** The department shall enforce this section and may adopt rules as necessary for the purposes of implementing, administering and enforcing this section.

A. Except as may otherwise be required under federal law or by the producer or representative organization under an approved plan, the department may not impose a requirement by rule or otherwise on a collection site regarding the collection, handling, record-keeping, storage or shipping of post-consumer paint that is more stringent than the requirements of this section for collection sites. [2015, c. 331, §9 (NEW).]

B. A collection site that complies with the requirements of this section and that uses environmentally sound management practices is not subject to penalties for violation of the department's rules related to post-consumer paint. [2015, c. 331, §9 (NEW).]

C. The department shall charge a reasonable fee to be paid by an applicant for approval of a paint stewardship program for review of the plan. The department may establish a reasonable annual fee to cover the actual costs for annual report review, oversight, administration and enforcement. Fees established under this paragraph may not exceed the greater of $82,000 per year and 1% of total program costs as set forth in the independent financial auditing report required under subsection 5. [2015, c. 331, §9 (NEW).]

[2015, c. 331, §9 (AMD) .]

7. **Retailers.** Unless an earlier implementation date is approved by the commissioner pursuant to subsection 5, paragraph A, beginning July 1, 2015 or 3 months after a plan is approved by the commissioner under subsection 3, whichever occurs later, a retailer may not sell architectural paint unless, on the date the retailer orders the architectural paint from the producer or its agent, the producer or the paint brand is listed on the department's publicly accessible website as implementing or participating in an approved paint stewardship program. A retailer may participate as a paint collection point pursuant to the paint stewardship program on a voluntary basis and pursuant to all applicable laws and rules. A retailer that collects post-consumer paint must follow a collection site procedure manual developed by a producer or representative organization to ensure the use of environmentally sound management practices when handling architectural paints at collection locations. If an earlier implementation date is approved by the commissioner pursuant to subsection 5, paragraph A, the provisions of this subsection apply with respect to the plan as of that date.

[2013, c. 483, §3 (AMD) .]

8. **List of producers and brands.** The department shall post on its publicly accessible website a list of the producers participating and the brands included in a paint stewardship program.

[2013, c. 395, §1 (NEW) .]

9. **Relationship to other product stewardship program laws.** A paint stewardship program established pursuant to this section is governed by the provisions of this section and is exempt from any requirements related to product stewardship programs established under chapter 18 unless otherwise specifically provided.

[2013, c. 395, §1 (NEW) .]

10. **Rules.** The department may adopt rules to implement this section. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2013, c. 395, §1 (NEW) .]

SECTION HISTORY
2013, c. 395, §1 (NEW). 2013, c. 483, §§1-3 (AMD). 2015, c. 331, §§1-9 (AMD).

Subchapter 4: FACILITY SITING AND DEVELOPMENT

§2151. OFFICE OF SITING AND DISPOSAL OPERATIONS

(REPEALED)

SECTION HISTORY

1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A59 (RP).

§2151-A. INDEMNIFICATION

The department shall defend and indemnify any employee of the bureau and any former employee of the former State Planning Office including the director and any member of the former Facility Siting Board against expenses actually and necessarily incurred by the person in connection with the defense of any action or proceeding in which the person is made party by reason of past or present association with the bureau or former State Planning Office with regard to the powers and duties set forth in this article. [2011, c. 655, Pt. GG, §38 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1995, c. 465, §A60 (NEW). 1995, c. 465, §C2 (AFF). 2011, c. 655, Pt. GG, §38 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2152. FACILITY SITING BOARD

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A61 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 502, §E32 (AMD). 1999, c. 556, §41 (AMD). 2001, c. 352, §16 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2011, c. 655, Pt. GG, §39 (RP).

§2153. SITING CRITERIA

1. **Siting criteria.** With regard to state-owned facilities, the bureau shall administer rules adopted by the former Maine Waste Management Agency, Office of Siting and Disposal Operations and subsequently administered by the former State Planning Office pursuant to this subsection for siting criteria for solid waste disposal facilities. The bureau may revise rules as necessary based on the following factors.

A. A site may be located anywhere within the State and need not be in proximity to the site of waste generation. [1991, c. 794, §2 (AMD).]

A-1. Sites for the disposal of special waste may not be located within a 5-mile radius of an existing commercial special waste landfill or a commercial incineration facility. [1995, c. 465, Pt. A, §62 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

B. To the extent possible, a site must be located in proximity to the transportation systems, including existing or potential railroad systems, that are used to convey waste to the site or to convey residuals and materials to be recycled from the site. [1991, c. 794, §2 (AMD).]

C. The capacity or size of a site must be consistent with the projected demand as determined in the state plan. [1989, c. 585, Pt. A, §7 (NEW).]

D. A site and its considered use must be consistent with, and actively support, other waste management objectives, including waste reduction and recycling. [1989, c. 585, Pt. A, §7 (NEW).]

E. The projected price for site development, construction and operation must be fair and reasonable. [1989, c. 585, Pt. A, §7 (NEW).]

F. A site must meet preliminary environmental standards developed jointly by the department and the Maine Land Use Planning Commission, including ground water standards, geological standards and standards to protect public drinking water supplies. [1991, c. 794, §2 (AMD); 2011, c. 682, §38 (REV).]

G. Existing uses on adjacent properties, including public or private schools, may not be in significant conflict with or significantly jeopardized by the use of a site. [1991, c. 794, §2 (AMD).]

[2011, c. 655, Pt. GG, §40 (AMD); 2011, c. 655, Pt. GG, §70 (AFF); 2011, c. 682, §38 (REV) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 794, §2 (AMD). 1995, c. 465, §A62 (AMD). 1995, c. 465, §C2 (AFF). 2011, c. 655, Pt. GG, §40 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2011, c. 682, §38 (REV).

§2154. SITE SELECTION

1. **Initial site screening.** The bureau shall conduct a site screening and selection process to identify solid waste disposal capacity sufficient to meet the projected needs identified in the state planning process under section 2123-A, subsection 4. The bureau shall consider the need for geographic distribution of facilities to adequately serve all regions of the State. The bureau also shall consider in its site selection process the need for landfill capacity to dispose of incinerator ash resulting from the combustion of domestic and commercial solid waste generated within its jurisdiction. Prior to recommending a site, the bureau shall hold a public hearing in every municipality or plantation identified in the screening process as a potential site. For potential sites within an unincorporated township, the bureau shall hold a public hearing within the vicinity of the proposed site. Prior to submitting a recommended site to the department for review, the bureau must find that the recommended site meets the standards adopted under section 2153.

[2011, c. 655, Pt. GG, §41 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Siting; general.** Subsequent to the siting process under subsection 1, the bureau shall identify additional sites as requested by the department and as capacity needs are identified in the state plan. The bureau shall employ the same criteria and considerations employed under subsection 1. The bureau shall hold a public hearing in each municipality within which the bureau may recommend the location of any solid waste disposal or refuse-derived fuel processing facility.

[2011, c. 655, Pt. GG, §41 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

3. **Municipal reimbursement.** At the conclusion of proceedings before the bureau conducted pursuant to subsection 1, the bureau shall reimburse a municipality for eligible expenses incurred as a result of that municipality's direct, substantive participation in proceedings before the bureau. The amount reimbursed under this subsection may not exceed $50,000 for any municipality. For the purposes of this subsection, "eligible expenses" has the same meaning as "expenses eligible for reimbursement" under section 1310-S, subsection 4 and any rules adopted by the Board of Environmental Protection pursuant to that section.

[2011, c. 655, Pt. GG, §41 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 243, §1 (AMD). 1991, c. 794, §§3,4 (AMD). 1991, c. 794, §9 (AFF). 1995, c. 465, §A63 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §§A44,45 (AMD). 2011, c. 655, Pt. GG, §41 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2155. NOTIFICATION

The bureau shall notify the municipal officers of any municipality within which a waste disposal facility site is recommended under this subchapter of that recommendation. The bureau shall notify the municipal officers by certified mail within 30 days of making the recommendation. If the proposed site is located within

the jurisdiction of the Maine Land Use Planning Commission, the bureau shall notify the Maine Land Use Planning Commission and the county commissioners in lieu of the municipal officers. [2011, c. 655, Pt. GG, §42 (AMD); 2011, c. 655, Pt. GG, §70 (AFF); 2011, c. 682, §38 (REV).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 2011, c. 655, Pt. GG, §42 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2011, c. 682, §38 (REV).

§2156. FACILITY DEVELOPMENT

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 243, §2 (AMD). 1991, c. 517, §C2 (AMD). 1991, c. 794, §5 (AMD). 1995, c. 465, §§A64,65 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 588, §5 (RP).

§2156-A. FACILITY DEVELOPMENT

1. **Planning for development.** The bureau, in consultation with the department, shall plan for the development of facilities sufficient to meet needs for municipal solid waste identified in the state plan and any revisions to the plan and to serve all geographic areas of the State. The bureau, in consultation with the department, may plan for the development of facilities sufficient to meet needs for special waste identified in the state plan and any revisions to the plan and to serve all geographic areas of the State.

[2011, c. 655, Pt. GG, §43 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Recommendation for development.** When the bureau finds that 6 years or less of licensed and available disposal capacity for municipal solid waste or special waste remains within the State, the bureau shall submit a report recommending the construction and operation of a state-owned solid waste disposal facility for the disposal of the type of waste for which capacity is needed to the joint standing committee of the Legislature having jurisdiction over natural resource matters. The report must recommend which state agency or department will own the facility and how it will be operated. The report must also include a review of disposal options outside of the State; a review of existing efforts to reduce, reuse, recycle, compost and incinerate the affected municipal solid waste and special waste streams and the impact of these efforts on capacity requirements; a thorough economic analysis of the facility's expected costs; and commitments from entities to utilize the facility and projected revenues. It is the intent of the Legislature that the facility be operated by a private contractor. A state-owned solid waste disposal facility may not be constructed or operated unless authorized by legislation pursuant to subsection 3.

[2011, c. 655, Pt. GG, §43 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

3. **Authorization for development.** The joint standing committee of the Legislature having jurisdiction over natural resource matters may report out legislation authorizing construction and operation of a state-owned solid waste disposal facility in response to a report submitted pursuant to subsection 2.

[1995, c. 588, §6 (NEW) .]

4. **Ownership, construction and operation.** The bureau shall maintain ownership of a site acquired for construction and operation of a state-owned solid waste disposal facility until the Legislature authorizes transfer of the site to another state department or agency, except that this subsection does not prohibit any

lease or transfer of the site pursuant to an agreement entered into before the effective date of this subsection or pursuant to any amendment to such an agreement entered into before or after the effective date of this subsection.

[2011, c. 655, Pt. GG, §43 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

5. **Development by others.** This section does not preclude a municipality or regional association from developing and operating solid waste disposal facilities on its own initiative.

[1995, c. 588, §6 (NEW) .]

SECTION HISTORY
1995, c. 588, §6 (NEW). 1999, c. 736, §1 (AMD). 2007, c. 192, §6 (AMD).
2011, c. 655, Pt. GG, §43 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2157. REVIEW OF PROPOSED WASTE FACILITIES

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §C11 (AMD). 1989, c. 890, §§A40,B289 (AMD). 1991, c. 66, §A41 (AMD). 1991, c. 517, §B12 (AMD).
1993, c. 732, §B3 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A66 (RP).

§2158. FUTURE COMMERCIAL SOLID WASTE DISPOSAL FACILITIES

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 890, §§A40,B290 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A67 (RP).

§2159. REAL AND PERSONAL PROPERTY; RIGHT OF EMINENT DOMAIN

The bureau may acquire and hold real and personal property that it considers necessary for its purposes, is granted the right of eminent domain and, for those purposes, may take and hold, either by exercising its right of eminent domain or by purchase, lease or otherwise, for public use, any land, real estate, easements or interest therein, necessary for constructing, establishing, maintaining, operating and the closure of solid waste disposal facilities. [2011, c. 655, Pt. GG, §44 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A46 (AMD). 2011, c. 655, Pt. GG, §44 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2160. PROCEDURE IN EXERCISE OF RIGHT OF EMINENT DOMAIN

The right of eminent domain granted in section 2159 may only be exercised after complying with the following procedures. [1989, c. 585, Pt. A, §7 (NEW).]

1. **Notice to owner.** The bureau shall provide to the owner or owners of record notice of the following:

A. The determination of the bureau that it proposes to exercise the right of eminent domain; [2011, c. 655, Pt. GG, §45 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

B. A description and scale map of the land or easement to be taken; [1989, c. 585, Pt. A, §7 (NEW).]

C. The final amount offered for the land or easement to be taken, based on the fair value as estimated by the bureau; and [2011, c. 655, Pt. GG, §45 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

D. Notice of the time and place of the hearing provided in subsection 4. [1989, c. 585, Pt. A, §7 (NEW).]

Notice may be made by personal service in hand by an officer duly qualified to serve civil process in this State or by certified mail, return receipt requested, to the last known address of the owner or owners. If the owner or owners are not known or can not be notified by personal service or certified mail, notice may be given by publication in the manner provided in subsection 4.

[2011, c. 655, Pt. GG, §45 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Notice to tenant.** Notice shall be given to any tenant in the same manner notice is given to the owner of the property.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Notice to the affected municipality.** Notice shall be given to the municipality in which the property to be acquired is located in the same manner notice is given to the owner of the property and shall be addressed to the municipal officers.

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Hearing.** The bureau shall hold a public hearing on the advisability of its proposed exercise of the right of eminent domain. Notice of the hearing must be made by publication in a newspaper of general circulation in the area of the taking and published once a week for 2 successive weeks, the last publication to be at least 2 weeks before the time appointed in the hearing. The hearing notice must include:

A. The time and place of the hearing; [1989, c. 585, Pt. A, §7 (NEW).]

B. A description of the land or easement to be taken; and [1989, c. 585, Pt. A, §7 (NEW).]

C. The name of the owners, if known. [1989, c. 585, Pt. A, §7 (NEW).]

[2011, c. 655, Pt. GG, §46 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A47 (AMD). 2011, c. 655, Pt. GG, §§45, 46 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2161. CONDEMNATION PROCEEDINGS

At the time the bureau sends the notice in section 2160, the bureau shall file in the county commissioner's office in which the property to be taken is located and cause to be recorded in the registry of deeds in the county plans of the location of all lands, real estate, easements or interest therein, with an appropriate description and the names of the owners thereof, if known. When for any reason the bureau fails to acquire property that it is authorized to take, which is described in that location, or if the location so recorded is defective and uncertain, it may, at any time, correct and perfect the location and file a new description. In that case, the bureau is liable in damages only for property for which the owner had not previously been paid, to be assessed as of the time of the original taking, and the bureau is not liable for any acts that would have been justified if the original taking had been lawful. No entry may be made on any private lands, except to make surveys, until the expiration of 10 days from the filing, whereupon, possession

may be had of all the lands, real estate, easements or interests therein and other property and rights as aforesaid to be taken, but title may not vest in the bureau until payment for the property is made. [2011, c. 655, Pt. GG, §47 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A48 (AMD). 2011, c. 655, Pt. GG, §47 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2162. ASSISTANCE IN REGIONAL ASSOCIATION SITING

1. Technical assistance. Upon request by a regional association, the bureau may provide technical assistance to that regional association in the establishment of approved waste facilities, including assistance in planning, location, acquisition, development and operation of the site. The regional association shall describe fully the need and justification for the request. The bureau may request information from the regional association necessary to provide assistance.

[2011, c. 655, Pt. GG, §48 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. Submission of report recommending construction of state-owned facility. When the bureau, in consultation with a regional association, finds that disposal capacity is projected to be needed for bulky wastes, construction or demolition waste or land-clearing debris and that the regional association is not able to pursue the siting, establishment and operation of a waste facility, the bureau may submit a report recommending the construction and operation of a state-owned solid waste disposal facility that will fulfill the disposal need to the joint standing committee of the Legislature having jurisdiction over natural resources matters. The report must include a review of disposal options outside of the State; a review of existing efforts to reduce, reuse, recycle, compost and incinerate the affected waste streams and the impact of these efforts on capacity requirements; a thorough economic analysis of the facility's expected costs; and commitments from entities to utilize the facility and projected revenues. The joint standing committee of the Legislature having jurisdiction over natural resources matters may report out legislation authorizing the construction and operation of a state-owned solid waste disposal facility in response to a report submitted pursuant to this subsection.

[2011, c. 655, Pt. GG, §48 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1999, c. 736, §2 (RPR). 2011, c. 655, Pt. GG, §48 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2163. EXEMPT FACILITIES

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A68 (RP).

§2164. HOUSEHOLD AND SMALL GENERATOR HAZARDOUS WASTE

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 517, §B13 (AMD). 1991, c. 808, §1 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 465, §A69 (RP).

§2165. REGULATION OF CERTAIN DRY CELL BATTERIES

1. **Definitions.** As used in this section and section 2166, the following terms have the following meanings.

A. "Industrial, communications or medical facility" means a structure or site where 15 or more people are employed and:

(1) Where articles are assembled, manufactured or fabricated;

(2) Are included in major group 48 of the federal Office of Management and Budget, Standard Industrial Codes; or

(3) Where medical services are provided. [1991, c. 808, §2 (NEW).]

B. "Rechargeable battery" means any nickel-cadmium or sealed lead-acid battery that is designed for reuse and is capable of being recharged after repeated use. [1991, c. 808, §2 (NEW).]

[1991, c. 808, §2 (NEW) .]

2. **Disposal ban.** A person employed directly or indirectly by a government agency, or an industrial, communications or medical facility may not knowingly dispose of a dry cell mercuric oxide battery or a rechargeable battery in a manner that is not part of a collection system established under subsection 4.

[1991, c. 808, §2 (NEW) .]

3. **User responsibility.** A government agency or industrial, communications or medical facility shall collect and segregate, by chemical type, the batteries that are subject to the disposal prohibition under subsection 2 and return each segregated collection either to the supplier that provided the facility with that type of battery or to a collection facility designated by the manufacturer of that battery or battery-powered product.

[1991, c. 808, §2 (NEW) .]

4. **Manufacturer responsibility.** A manufacturer of dry cell mercuric oxide or rechargeable batteries that are subject to subsection 1 shall:

A. Establish and maintain a system for the proper collection, transportation and processing of waste dry cell mercuric oxide and rechargeable batteries for purchasers in this State; [1991, c. 808, §2 (NEW).]

B. Clearly inform each purchaser that intends to use these batteries of the prohibition on disposal of dry cell mercuric oxide and rechargeable batteries and of the available systems for proper collection, transportation and processing of these batteries; [1991, c. 808, §2 (NEW).]

C. Identify a collection system through which mercuric oxide and rechargeable batteries must be returned to the manufacturer or to a manufacturer-designated collection site; and [1991, c. 808, §2 (NEW).]

D. Include the cost of proper collection, transportation and processing of the waste batteries in the sales transaction or agreement between the manufacturer and any purchaser. [1991, c. 808, §2 (NEW).]

[1991, c. 808, §2 (NEW) .]

5. **Supplier responsibility.** A final supplier of mercuric oxide and rechargeable batteries or battery-operated products is responsible for informing the purchasers that intend to use these batteries of the purchaser's responsibilities under this section.

[1991, c. 808, §2 (NEW) .]

6. **Mercury content.**

[2009, c. 86, §2 (AMD); 2011, c. 206, §35 (RP) .]

7. **Effective date.** Except as otherwise indicated, this section takes effect January 1, 1994.

[1991, c. 808, §2 (NEW) .]

8. **Penalty.** A violation of subsection 2 is a civil violation for which a forfeiture of not more than $100 per battery disposed of improperly may be adjudged. A violation of subsection 4 is a civil violation for which a forfeiture of not more than $100 may be adjudged. Each day that a violation continues or exists constitutes a separate offense.

[2011, c. 206, §36 (AMD) .]

9. **Battery management plan.**

[1995, c. 656, Pt. A, §49 (RP) .]

SECTION HISTORY
RR 1991, c. 2, §150 (COR). 1991, c. 808, §2 (NEW). 1995, c. 656, §A49 (AMD). 2009, c. 86, §2 (AMD). 2011, c. 206, §§35, 36 (AMD).

§2166. RECHARGEABLE CONSUMER PRODUCTS

1. **Nonremoveable battery requirements.** A person may not sell, distribute or offer for sale in this State any product powered by a rechargeable battery primarily used or purchased to be used for personal, family or household purposes unless:

A. The battery may be easily removed by the consumer or is contained in a battery pack that is separate from the product and may be easily removed; and [1991, c. 808, §2 (NEW).]

B. The product, the battery itself and the package containing the product are all labeled, in a manner that is clearly visible to the consumer, indicating that the battery must be recycled or disposed of properly and that the type of electrode used in the battery is clearly identifiable. [1991, c. 808, §2 (NEW).]

[1991, c. 808, §2 (NEW) .]

2. **Exemption.**

[1995, c. 656, Pt. A, §50 (RP) .]

3. **Effective date.** Except as otherwise indicated, this section takes effect January 1, 1994.

[1991, c. 808, §2 (NEW) .]

4. **Penalty.** A violation of this section is a civil violation for which a forfeiture of not more than $100 per battery sold, distributed or offered for sale may be adjudged. Each day that a violation continues or exists constitutes a separate offense.

[1991, c. 808, §2 (NEW) .]

SECTION HISTORY
1991, c. 808, §2 (NEW). 1995, c. 656, §A50 (AMD).

Subchapter 5: HOST COMMUNITY COMPENSATION AND FACILITY OVERSIGHT

§2170. HOST COMMUNITY BENEFITS; APPLICATION LIMITED TO FACILITIES OWNED OR OPERATED BY THE BUREAU

This subchapter applies only to solid waste disposal facilities owned or operated by the bureau. Wherever in this subchapter the term "solid waste disposal facility" or "facility" is used, those terms may be construed only to mean a solid waste disposal facility owned or operated by the bureau. [2011, c. 655, Pt. GG, §49 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1993, c. 310, §B2 (NEW). 1995, c. 656, §A51 (AMD). 2011, c. 655, Pt. GG, §49 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2170-A. HOST COMMUNITY AGREEMENTS

The provisions of this section apply to a solid waste disposal facility owned or operated by the bureau. [2011, c. 655, Pt. GG, §50 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Issuance of license.** The department may not issue a license for a solid waste disposal facility unless a host community agreement is in place in accordance with this section.

[2007, c. 406, §3 (NEW) .]

2. **Agreement required.** A solid waste disposal facility must have in place a host community agreement with all applicable host communities during the development and operation and through closure of that facility. A host community agreement for the purposes of this section must, when applicable, include provisions relating to the impact payments set forth in section 2176.

[2007, c. 406, §3 (NEW) .]

SECTION HISTORY
2007, c. 406, §3 (NEW). 2011, c. 655, Pt. GG, §50 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2171. CITIZEN ADVISORY COMMITTEE

The municipal officers of each municipality identified by the bureau as a potential site for a waste disposal facility and each contiguous municipality that may be affected by the construction or operation of that facility shall jointly establish a single citizen advisory committee within 60 days of notification pursuant to section 2155. [2011, c. 655, Pt. GG, §51 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Membership.** The committee must be comprised of citizens from each affected municipality, appointed by the municipal officers, including, but not limited to: a local health officer; a municipal officer; and at least 3 additional residents of the municipality, including abutting property owners and residents potentially affected by pollution from the facility. In addition, each committee may include members representing any of the following interests: environmental and community groups; labor groups; professionals with expertise relating to landfills or incinerators; experts in the areas of chemistry, epidemiology, hydrogeology and biology; and legal experts.

[2007, c. 598, §15 (AMD) .]

2. **Meetings.** The committee shall meet as soon as practical following appointment of its members and shall select a chair from among its members. The committee shall establish procedures for the conduct of meetings.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Responsibilities.** Each committee established under this section may:

A. Review proposed contracts, site analyses, applications and other documents relating to the location, construction, permitting and operation of the facility; [1993, c. 310, Pt. B, §5 (AMD).]

B. Hold periodic public meetings to solicit the opinions of residents concerning the facility and any permit applications, contracts or other provisions relating to the facility and the regional plan; [1993, c. 310, Pt. B, §5 (AMD).]

C. Provide the project developer and department with any alternative contract provisions, permit conditions, plans or procedures it considers appropriate; and [1993, c. 310, Pt. B, §5 (AMD).]

D. Serve as a liaison between the community and the project developer or the commissioner to facilitate communications during the development and operation of the facility, and provide residents with updated information about the project, including providing explanations of any technical terms. [1993, c. 310, Pt. B, §5 (AMD).]

[1993, c. 310, Pt. B, §5 (AMD) .]

4. **Unincorporated townships and plantations.** For the purposes of this subchapter, county commissioners shall act as municipal officers for unincorporated townships and assessors of plantations shall act as municipal officers for plantations.

[1989, c. 585, Pt. A, §7 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §A12 (AMD). 1989, c. 890, §§A40,B291 (AMD). 1993, c. 310, §§B3-5 (AMD). 2007, c. 598, §15 (AMD). 2011, c. 655, Pt. GG, §51 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2172. DISPUTE RESOLUTION

In the event that the bureau and a host community cannot agree on the terms of a host community agreement pursuant to section 2170-A, the parties shall submit the dispute for resolution in accordance with this section. [2011, c. 655, Pt. GG, §52 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Mediation.** The parties shall submit the dispute for mediation. The commissioner shall present to the parties a list of 5 experienced and qualified mediators. Each party may strike 2 names from the list. After each party has been afforded 2 opportunities to strike, either the sole remaining person or the first unchallenged person on the list must be appointed by the commissioner as the mediator assigned to mediate the dispute. In assembling the list of proposed mediators, the commissioner may consider the panel of mediators offered by the Office of Court Alternative Dispute Resolution Service created in Title 4, section 18-B.

[2007, c. 406, §4 (NEW) .]

2. **Arbitration.** If mediation fails to result in an agreement between the parties, the parties shall submit the dispute for arbitration. The commissioner shall present to the parties a list of 5 experienced and qualified arbitrators. Each party may strike 2 names from the list. After each party has been afforded 2 opportunities to strike, either the sole remaining person or the first unchallenged person on the list must be appointed

by the commissioner as the arbitrator assigned to determine the dispute. In assembling the list of proposed arbitrators, the commissioner may consider the panels of arbitrators offered by the Office of Court Alternative Dispute Resolution Service created in Title 4, section 18-B or by the American Arbitration Association or its successor organization.

A. Both the bureau and the host community will be bound by the decision of the arbitrator. [2011, c. 655, Pt. GG, §53 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

B. Unless otherwise provided for in this subsection, the arbitration must be conducted in accordance with the rules of the American Arbitration Association or its successor organization for the conduct of commercial arbitration proceedings. [2007, c. 406, §4 (NEW).]

C. Costs associated with the arbitration must be shared equally between the parties. [2007, c. 406, §4 (NEW).]

D. The arbitrator shall submit the decision to the commissioner. [2007, c. 406, §4 (NEW).]

E. Either party may appeal the decision of the arbitrator to the Superior Court. [2007, c. 406, §4 (NEW).]

[2011, c. 655, Pt. GG, §53 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1993, c. 310, §B6 (AMD). 1995, c. 656, §A52 (AMD). 2007, c. 406, §4 (RPR). 2011, c. 655, Pt. GG, §§52, 53 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2173. MUNICIPAL JURISDICTION OVER REGIONAL ASSOCIATION DISPOSAL FACILITIES

A municipality may adopt a local ordinance authorizing the municipal officers to issue a local permit containing the same findings, conclusions and conditions contained in the license issued by the department for a solid waste disposal facility located within the municipality's jurisdiction. The municipal officers may also attach to the permit additional conditions for the operation of the solid waste disposal facility on any issues not specifically addressed in any condition of the department's license. These conditions may not unreasonably restrict the operation of the facility and must be attached to the local permit by the municipal officers within 90 days of issuance of the department's license or within 30 days of a final decision by the department to relicense the facility. [1993, c. 310, Pt. B, §7 (AMD).]

An enforcement action brought by the municipality to enforce local permit conditions does not preclude the State from bringing an action to enforce the conditions of any license issued by the State or any other provision of law. In addition, the State has a right to intervene in any enforcement action brought by a municipality under this section. A municipality that has adopted local permit conditions described in this section shall employ an inspector certified under section 2174 to enforce permit conditions. [2011, c. 655, Pt. GG, §54 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1993, c. 310, §B7 (AMD). 1995, c. 656, §A53 (AMD). 2011, c. 655, Pt. GG, §54 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2174. LOCAL INSPECTION AND ENFORCEMENT

1. Certification.

[1993, c. 355, §62 (RP) .]

2. **Information.** The host municipality of a solid waste disposal facility has a right to all information from the department and the bureau pursuant to Title 1, chapter 13, subchapter 1. All information provided under this subsection must be made available to the citizen advisory committee and the public by the host municipality.

A. The commissioner shall provide all of the following information to the municipal officers of the host municipality:

(1) Copies of any inspection report of the facility within 5 working days of the preparation of the report;

(2) Prompt notification of all enforcement or emergency orders for those facilities, including, but not limited to, abatement orders, cessation orders, final civil penalty assessments, consent orders and decrees and notices of violation;

(3) Copies of all air, soil and water quality monitoring data collected by the commissioner at such facilities, including leachate and ash testing results, within 5 working days after complete laboratory analysis becomes available to the commissioner; and

(4) Copies of all analyses of the data under subparagraph (3). [1989, c. 890, Pt. A, §40 (AFF); 1989, c. 890, Pt. B, §292 (AMD).]

B. The operator of the facility shall provide the host municipality copies of all air, soil and water quality monitoring data, including leachate and ash testing results, conducted by or on behalf of the operator, within 5 days after that information becomes available to the operator. [1989, c. 585, Pt. A, §7 (NEW).]

C. The municipality shall provide all of the following information to the commissioner:

(1) Copies of any inspection report of the facility within 5 working days of the preparation of the report;

(2) Prompt notification of all enforcement or emergency orders for those facilities, including, but not limited to, abatement orders, cessation orders, final civil penalty assessments, consent orders and decrees and notices of violation;

(3) Copies of all air, soil and water quality monitoring data collected by the municipality at such facilities, including leachate and ash testing results, within 5 working days after complete laboratory analysis becomes available to the municipality; and

(4) Copies of all analyses of the data under subparagraph (3). [1989, c. 890, Pt. A, §40 (AFF); 1989, c. 890, Pt. B, §292 (AMD).]

[2011, c. 655, Pt. GG, §55 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

3. **Inspection; emergency orders.**

[1993, c. 680, Pt. A, §38 (RP) .]

4. **Commissioner inspections.** Whenever any host municipality notifies the commissioner of an order issued pursuant to a local permit requirement under section 2173 and gives the commissioner reason to believe that any solid waste disposal facility is in violation of any law or regulation administered by the department, or any order or the condition of any permit issued pursuant to any law or rule administered by the department, the commissioner shall promptly conduct an inspection of the facility.

If the commissioner finds that there is insufficient information to believe that there is a violation, the commissioner shall, within 10 working days of a municipality's request for an inspection, provide to the municipality a written explanation of the commissioner's decision not to conduct an inspection.

[1993, c. 310, Pt. B, §8 (AMD) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 890, §§A40,B292 (AMD). 1993, c. 310, §B8 (AMD). 1993, c. 355, §62 (AMD). 1993, c. 680, §A38 (AMD). 1995, c. 656, §A54 (AMD). 2011, c. 655, Pt. GG, §70 (AMD). 2011, c. 655, Pt. GG, §55 (AMD).

§2175. PROPERTY VALUE OFFSET

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 794, §6 (RP).

§2175-A. PROPERTY VALUE OFFSET

Owners of property, the value of which has been affected by a solid waste disposal facility, are eligible for reimbursement from the bureau for loss in property value directly attributable to the construction and operation of the facility. The bureau shall adopt rules to establish the formula and procedure for reimbursement, including, without limitation, definition of the impact area, a process for establishing baseline real estate values, a time frame within which the property value offset program will be in effect and an accounting of real estate trends in the area. [2011, c. 655, Pt. GG, §56 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1991, c. 794, §7 (NEW). RR 1993, c. 1, §137 (COR). 1993, c. 310, §B9 (AMD). 1995, c. 656, §A55 (AMD). 2011, c. 655, Pt. GG, §56 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2175-B. PAYMENT IN LIEU OF TAXES

The bureau shall annually pay a municipality an amount in lieu of taxes equal to the amount of property taxes on a solid waste disposal facility owned or operated by the bureau not paid to that municipality during the previous calendar year. In the case of an unorganized territory, the bureau shall annually pay the amount to the State Tax Assessor who shall deposit that amount in the Unorganized Territory Education and Services Fund established in Title 36, chapter 115. If the bureau disagrees with the amount determined to be due in lieu of taxes under this section, it may appeal to the State Board of Property Tax Review as provided in Title 36, section 271. [2011, c. 655, Pt. GG, §57 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1995, c. 465, §A70 (NEW). 1995, c. 465, §C2 (AFF). 2011, c. 655, Pt. GG, §57 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2176. IMPACT PAYMENTS

In addition to payment in lieu of taxes provided in section 2175-B, the bureau shall make impact payments to a municipality in which a solid waste disposal facility is located or, in the case of an unorganized territory, to the State Tax Assessor upon request by the community involved or by the State Tax Assessor. The bureau shall base its impact payments on measurable criteria including, without limitation: [2011, c. 655, Pt. GG, §58 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Roads.** Improvement, maintenance and repair of local roads directly affected by traffic to and from the facility;

[1993, c. 310, Pt. B, §11 (AMD) .]

2. **Emergency response.** Development and maintenance of adequate local emergency response capacity;

[2007, c. 406, §5 (AMD) .]

3. **Monitoring.** Financial support for on-site, municipally employed personnel or for other means determined necessary to enable the municipality to monitor the facility's compliance with state and local requirements; and

[2007, c. 406, §6 (AMD) .]

4. **Other issues.** Other issues determined on a case-specific basis by the applicant and bureau to be appropriate given the nature of the proposed facility.

[2011, c. 655, Pt. GG, §59 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1993, c. 310, §§B10,11 (AMD). 1995, c. 465, §A71 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A56 (AMD). 2007, c. 406, §§5-7 (AMD). 2011, c. 655, Pt. GG, §§ 58, 59 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2177. WATER SUPPLY MONITORING AND PROTECTION

Upon written request from persons owning land contiguous to a solid waste disposal facility, the bureau shall have quarterly sampling and analysis conducted of private water supplies used by the requestors for drinking water. The sampling and analysis must be conducted in a manner specified by and that meets criteria developed by the department. [2011, c. 655, Pt. GG, §60 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

If a facility adversely affects a public or private water supply by pollution, degradation, diminution or other means that result in a violation of the state drinking water standards as determined by the commissioner, the bureau shall restore the affected supply at no cost to the consumer or replace the affected supply with an alternative source of water that is of like quantity and quality to the original supply at no cost to the consumer. [2011, c. 655, Pt. GG, §60 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Extent of analysis.** Water supplies must be analyzed for all parameters or chemical constituents determined by the commissioner to be indicative of typical contamination from solid waste disposal facilities. The laboratory performing the sampling and analysis shall provide written copies of sample results to the bureau, the landowner and to the commissioner.

[2011, c. 655, Pt. GG, §60 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Additional sampling required.** If the analysis indicates possible contamination from a solid waste disposal facility, the commissioner shall conduct, or require the bureau to conduct, additional sampling and analysis to determine more precisely the nature, extent and source of contamination. The commissioner shall, if necessary, require this sampling beyond the boundaries of the contiguous property.

[2011, c. 655, Pt. GG, §60 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

3. **Written notice of rights.** On or before December 1, 1989, for permits issued under this chapter prior to October 1, 1989, and at or before the time of permit issuance for permits issued under this chapter after October 1, 1989, the bureau shall provide owners of contiguous land with written notice of their rights under this section on a form prepared by the commissioner.

[2011, c. 655, Pt. GG, §60 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 890, §§A40,B293 (AMD). 1991, c. 517, §B14 (AMD). 1993, c. 310, §B12 (AMD). 1995, c. 656, §A57 (AMD). 2011, c. 655, Pt. GG, §60 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

Subchapter 6: LIABILITY AND LIMITATIONS

§2181. EFFECT ON TORT CLAIMS

Nothing in this chapter may be construed or understood as in any way increasing any liability that may otherwise arise or be limited under Title 14, chapter 741. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2182. ABILITY TO INDEMNIFY

Nothing in this subchapter may be construed to prevent any host municipality, regional association or the State from obtaining or giving such indemnities as may be appropriate in connection with the ownership, operation or control of a municipal solid waste facility. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2183. EFFECT ON EXISTING CONTRACTS AND FACILITIES

Except as otherwise provided, nothing in this chapter may be construed to impair any contract in force upon the effective date of this chapter. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2184. MUNICIPAL CONTRACTS

A municipality may contract with any person to carry out its duties for the recycling, transportation, collection and storage of municipal waste and source-separated materials to be recycled, if the recycling, transportation, collection or storage activity or facility is conducted or operated in a manner that is consistent with the provisions of this chapter, the state plan and the rules promulgated pursuant to this chapter. [1989, c. 585, Pt. A, §7 (NEW).]

1. **Existing contracts.** Except as otherwise provided in this chapter, nothing in this chapter may be construed to interfere with, or in any way modify, the provisions of any contract for municipal waste disposal, processing or collection with any regional association or municipality in force upon the effective date of this chapter or prior to the adoption of the state plan.

[1989, c. 585, Pt. A, §7 (NEW) .]

2. **Renewals.** No renewal of any existing contract upon the expiration or termination of the original term of the contract, and no new contract for municipal waste disposal, processing or collection may be entered into after the effective date of this chapter, if the renewal or new contract fails to conform to the applicable provisions of this chapter or interferes with the implementation of the state plan.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Recycling activities; limited liability.** When the owner, lessee or occupant of premises as defined in Title 14, section 159-B undertakes recycling activities, as defined in Title 14, section 159-B on the premises, liability is limited as provided in Title 14, section 159-B.

[1991, c. 487, §2 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1991, c. 487, §2 (AMD).

Subchapter 7: FINANCE, FEES AND CONTRACTS

Article 1: FEES AND CONTRACTS

§2191. FEES

The bureau shall establish reasonable fees for waste disposal services provided by the bureau. [2011, c. 655, Pt. GG, §61 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A58 (AMD). 2011, c. 655, Pt. GG, §61 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2192. PURPOSES OF THE FEES

The fees charged to users of state-owned facilities and established by the bureau under this article, by rule, provide revenue for the following purposes: [2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Current expenses.** To pay the current expenses, either incurred directly or through contractual agreements with another party or parties, for operating and maintaining a facility or delivering a service and to provide for normal maintenance and replacement of equipment. Current expenses also include costs incurred under subchapter 5;

[2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

2. **Interest.** To provide for the payment of interest on the indebtedness created or assumed by the bureau;

[2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

3. **Indebtedness.** To provide an annual sum equal to not less than 2% nor more than 10% of the term indebtedness represented by the issuance of bonds created or assumed by the bureau, which sum must be turned into a sinking fund and there maintained to provide for the extinguishment of term indebtedness. The money set aside in this sinking fund must be devoted to the retirement of the term obligations of the bureau and may be invested in such securities as savings banks in the State are allowed to hold;

[2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

4. **Principal payments.** To provide for annual principal payments on serial indebtedness created or assumed by the bureau;

[2011, c. 655, Pt. GG, §62 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

5. **Contingency reserve fund allowance.** To provide for a contingency reserve fund allowance by providing rates to reflect up to a 5% addition to yearly revenues over that required to operate the facility;

[1989, c. 585, Pt. A, §7 (NEW) .]

6. **Closing reserve fund.** To provide for a closing and monitoring reserve fund by providing rates which, over the expected life span of the facility including the post-closure monitoring period, will generate the amount determined to be necessary by the department in its licensing process under chapter 13; and

[1989, c. 585, Pt. A, §7 (NEW) .]

7. **Compliance costs.** To provide for the costs associated with licensing, compliance and enforcement efforts of the department.

[1989, c. 585, Pt. A, §7 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §§A59,60 (AMD). 2011, c. 655, Pt. GG, §62 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2193. HOST MUNICIPALITY FEES

The bureau may set fees under this article for the host municipality at a level lower than the fees charged to other municipalities or users, as long as the lower fees are set in a manner consistent with the rules adopted by the bureau. [2011, c. 655, Pt. GG, §63 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 656, §A61 (AMD). 2011, c. 655, Pt. GG, §63 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

Article 2: MAINE SOLID WASTE MANAGEMENT FUND

§2201. MAINE SOLID WASTE MANAGEMENT FUND ESTABLISHED

The Maine Solid Waste Management Fund, referred to in this section as the "fund," is established as a nonlapsing fund to support programs administered by the bureau and the Department of Environmental Protection. The fund must be segregated into 2 subsidiary accounts. The first subsidiary account, called operations, receives all fees established and received under article 1. The 2nd subsidiary account, called administration, receives all fees established under this article and under Title 36, chapter 719 and all funds

recovered by the department as reimbursement for departmental expenses incurred to abate imminent threats to public health, safety and welfare posed by the illegal disposal of solid waste. [2011, c. 655, Pt. GG, §64 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

Money in the fund not currently needed to meet the obligations of the department or bureau must be deposited with the Treasurer of State to the credit of the fund and may be invested as provided by law. Interest on these investments must be credited to the fund. [2011, c. 655, Pt. GG, §64 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

Funds related to administration may be expended only in accordance with allocations approved by the Legislature for administrative expenses directly related to the bureau's and the department's programs, including actions by the department necessary to abate threats to public health, safety and welfare posed by the disposal of solid waste. Funds related to fees imposed on the disposal of construction and demolition debris and residue from the processing of construction and demolition debris may be expended only for the state cost share to municipalities under the closure and remediation cost-sharing program for solid waste landfills established in section 1310-F. Funds related to fees imposed under this article may be expended to provide grant funding in accordance with the Maine Solid Waste Diversion Grant Program established in section 2201-B. The department shall, on an annual basis, conduct a review of the revenues presently in the fund and the revenues projected to be added to or disbursed from the fund in upcoming calendar years and determine what amount of revenues, if any, are available to provide grant funding under section 2201-B. If the department determines that there are revenues in the fund available in the upcoming calendar year to provide grant funding under section 2201-B, the department must ensure that such revenues are designated for use in accordance with section 2201-B by the end of that calendar year. Funds related to operations may be expended only in accordance with allocations approved by the Legislature and solely for the development and operation of publicly owned facilities owned or approved by the bureau and for the repayment of any obligations of the bureau incurred under article 3. These allocations must be based on estimates of the actual costs necessary for the bureau and the department to administer their programs, to provide financial assistance to regional associations and to provide other financial assistance necessary to accomplish the purposes of this chapter. Beginning in the fiscal year ending on June 30, 1991 and thereafter, the fund must annually transfer to the General Fund an amount necessary to reimburse the costs of the Bureau of Revenue Services incurred in the administration of Title 36, chapter 719. Allowable expenditures include "Personal Services," "All Other" and "Capital Expenditures" associated with all bureau activities other than those included in the operations account. [2015, c. 461, §6 (AMD).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 596, §H (AMD). 1989, c. 927, §7 (AMD). 1991, c. 517, §B15 (AMD). 1991, c. 528, §§R12,13 (AMD). 1991, c. 528, §RRR (AFF). 1991, c. 591, §§R12,13 (AMD). 1991, c. 824, §A88 (RPR). 1993, c. 410, §C8 (AMD). 1995, c. 395, §P8 (AMD). 1995, c. 395, §P11 (AFF). 1995, c. 465, §A72 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §§A62,63 (AMD). 1997, c. 1, §E2 (AMD). 1997, c. 24, §C15 (AMD). 1997, c. 526, §14 (AMD). 2001, c. 315, §5 (AMD). 2005, c. 618, §21 (AMD). 2011, c. 429, §7 (AMD). 2011, c. 544, §1 (AMD). 2011, c. 655, Pt. GG, §64 (AMD). 2011, c. 655, Pt. GG, §70 (AFF). 2015, c. 461, §6 (AMD).

§2201-A. SUNSET; LEGISLATIVE INTENT

(REPEALED)

SECTION HISTORY
1989, c. 927, §8 (NEW). 1993, c. 410, §EE1 (RP).

§2201-B. MAINE SOLID WASTE DIVERSION GRANT PROGRAM

1. **Establishment.** The Maine Solid Waste Diversion Grant Program, referred to in this section as "the program," is established to provide grants to public and private entities to assist in the development, implementation or improvement of programs, projects, initiatives or activities designed to increase the diversion of solid waste from disposal in the State.

[2015, c. 461, §7 (NEW) .]

2. **Administration.** The department shall administer the program and may dispense revenue from the Maine Solid Waste Management Fund established under section 2201 for the purposes of the program based on approved grant requests from public and private applicants. The department may provide grants for the documented costs of application proposals in accordance with the priorities in subsection 5. Costs incurred by the department in the development and administration of the program may be paid with revenue in the Maine Solid Waste Management Fund in a manner consistent with section 2201.

[2015, c. 461, §7 (NEW) .]

3. **Audit.** Revenue from the Maine Solid Waste Management Fund established under section 2201 disbursed by the program is subject to audit as determined by the department, and the recipient of any such funding must agree to be subject to audit and to cooperate with the auditor as a condition of receiving funding.

[2015, c. 461, §7 (NEW) .]

4. **Eligibility criteria.** The department may disburse grants under the program to any public or private entity demonstrating that a proposed program, project, initiative or activity is, in the department's determination, likely to increase the diversion of solid waste from disposal within a particular community, municipality or region or the State, including, but not limited to, municipal or regional composting, organics recovery or recycling programs, including the establishment of such programs or the purchase of infrastructure, equipment or other items necessary to implement such programs or improve existing programs; programs designed to provide equipment for or otherwise support residential composting and recycling; programs or business models designed to collect, transport for processing or process organic or recyclable materials; pilot programs designed to evaluate the feasibility of targeted composting, organics recovery, recycling or other waste management programs or initiatives; and initiatives or programs designed to educate certain categories of individuals or the general public about composting, organics recovery or recycling or to otherwise improve individual or community waste management practices.

[2015, c. 461, §7 (NEW) .]

5. **Priorities.** The department shall give highest priority in the awarding of funds under this section to programs, projects, initiatives or activities proposed by municipal or regional association applicants that otherwise meet the department's eligibility criteria. The department shall also give priority to applicants proposing programs, projects, initiatives or activities that are likely to increase the removal and recycling of organic materials from municipal waste streams. The awarding of funds under this section must be consistent with the solid waste management hierarchy established under section 2101 and the food recovery hierarchy established under section 2101-B and must be prioritized to provide the most benefit to the State in terms of increasing the diversion of solid waste from disposal.

[2015, c. 461, §7 (NEW) .]

6. **Conditions of approval.** The department may require, as a condition of grant approval, that an applicant demonstrate its ability to provide in-kind contributions relating to the grant applied for or to provide a certain level of matching funding to supplement the grant applied for.

[2015, c. 461, §7 (NEW) .]

7. **Rules.** The department may adopt rules to implement this section. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.

[2015, c. 461, §7 (NEW) .]

SECTION HISTORY
2015, c. 461, §7 (NEW).

§2202. FEES

1. **Fees established.** The department shall establish procedures to charge fees specified in this article and pursuant to the requirements of this article. All fees collected by the department under this article must be deposited into the Maine Solid Waste Management Fund.

[1995, c. 465, Pt. A, §73 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Application.**

[2011, c. 544, §2 (RP) .]

3. **Payment.** A person who delivers solid waste to a solid waste disposal facility shall pay all fees established under this article to the operator of the solid waste disposal facility.

[1993, c. 310, Pt. C, §2 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1993, c. 310, §C2 (AMD). 1995, c. 465, §A73 (AMD). 1995, c. 465, §C2 (AFF). 2011, c. 544, §2 (AMD).

§2203. FEE ON SPECIAL WASTE

(REPEALED)

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §§A13,20 (RPR). 1991, c. 517, §B16 (AMD). 1995, c. 465, §A74 (AMD). 1995, c. 465, §C2 (AFF). 1999, c. 385, §6 (RP).

§2203-A. WASTE HANDLING FEES

1. **Fees.** Unless otherwise provided by rule adopted in accordance with subsection 3, fees are imposed in the following amounts to be levied for solid waste that is disposed of at commercial, municipal, state-owned and regional association landfills.

Asbestos	$5 per cubic yard
Oil-contaminated soil, gravel, brick, concrete and other aggregate	$25 per ton
Waste water facility sludge	$5 per ton
Ash, coal and oil	$5 per ton

Paper mill sludge	$5 per ton
Industrial waste	$5 per ton
Sandblast grit	$5 per ton
All other special waste	$5 per ton
Municipal solid waste ash	$1 per ton
Front end process residue (FEPR)	$1 per ton
Construction and demolition debris and residue from the processing of construction and demolition debris	$2 per ton

[2015, c. 461, §8 (AMD) .]

2. **Exceptions.** Notwithstanding subsection 1:

A. A municipal or regional association landfill that has accepted 12,000 tons or more of special waste, other than municipal solid waste ash, asbestos and oil-contaminated soil, gravel, brick, concrete and other aggregate, in calendar year 1998 shall continue to pay $2 per ton to the department for those categories of waste accepted in that calendar year; [1999, c. 385, §7 (NEW).]

B. A municipal or regional association landfill shall continue to pay $2 per ton to the department on all categories of special waste other than municipal solid waste ash, asbestos and oil-contaminated soil, gravel, brick, concrete and other aggregate that was generated by the municipality or regional association and accepted for disposal in its landfill in calendar year 1998; [2011, c. 544, §3 (AMD).]

C. A municipal or regional association landfill that has accepted 550 tons or more of oil-contaminated soil, gravel, brick, concrete and other aggregate in calendar year 1998 shall pay $5 per ton for that category of waste; and [2011, c. 544, §3 (AMD).]

D. A fee may not be imposed under this section on construction and demolition debris or residue from the processing of construction and demolition debris disposed of at a municipal or regional association landfill that is less than 6 acres in size and accepts only inert fill, construction and demolition debris, debris from land clearing and wood wastes. [2011, c. 544, §3 (NEW).]

[2011, c. 544, §3 (AMD) .]

3. **Rules.** The department may adopt rules imposing per ton or per cubic yard fees on any of the types of waste listed in subsection 1 disposed of at a commercial, municipal, regional association or state-owned solid waste landfill. Fees imposed pursuant to this subsection must be consistent with the solid waste management hierarchy established under section 2101 and the food recovery hierarchy established under section 2101-B. Rules adopted pursuant to this subsection are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A.

[2015, c. 461, §9 (NEW) .]

SECTION HISTORY
1999, c. 385, §7 (NEW). 1999, c. 564, §1 (AMD). 2011, c. 544, §3 (AMD). 2015, c. 461, §§8, 9 (AMD).

§2204. MUNICIPAL SOLID WASTE DISPOSAL SURCHARGE

Unless otherwise provided by rule adopted in accordance with subsection 4, the department shall impose a fee of $2 per ton on any municipal solid waste disposed of at a commercial, municipal , regional association or state-owned landfill, except that there is no fee on municipal solid waste generated by a municipality that owns the landfill accepting it or that has entered into a contract with a term longer than 9 months for disposal of municipal solid waste in that landfill facility. [2015, c. 461, §10 (AMD).]

1. **Landfill surcharge.**

[1999, c. 385, §8 (RP) .]

2. **Recycling progress.**

[1995, c. 465, Pt. A, §75 (RP); 1995, c. 465, Pt. C, §2 (AFF) .]

3. **Imported municipal solid waste.**

[1999, c. 385, §8 (RP) .]

4. **Rules.** The department may adopt rules imposing per ton fees on any municipal solid waste disposed of or received for processing at a commercial, municipal, regional association or state-owned solid waste disposal facility, solid waste processing facility, incineration facility or solid waste landfill. Fees imposed pursuant to this subsection must be consistent with the solid waste management hierarchy established under section 2101 and the food recovery hierarchy established under section 2101-B. Rules adopted pursuant to this subsection are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A.

[2015, c. 461, §11 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §§A14,20 (AMD). 1991, c. 517, §B17 (RPR). 1993, c. 85, §§1,2 (AMD). 1993, c. 310, §C3 (AMD). 1995, c. 465, §§A75,76 (AMD). 1995, c. 465, §C2 (AFF). 1995, c. 656, §A64 (AMD). 1999, c. 385, §8 (AMD). 2015, c. 461, §§10, 11 (AMD).

§2205. FEE PAYMENTS

Each operator of a solid waste disposal facility shall make the fee payment quarterly. The fee must be paid to the department on or before the 20th day of April, July, October and January for the 3 months ending the last day of March, June, September and December. [1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

1. **Quarterly reports.** Each fee payment must be accompanied by a form prepared and furnished by the department and completed by the operator. The form must state the total weight or volume of solid waste disposed of at the facility during the payment period and provide any other aggregate information determined necessary by the department to carry out the purposes of this chapter. The form must be signed by the operator.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Timeliness of payment.** The operator is deemed to have made a timely payment of the fee if the operator complies with all of the following:

A. The enclosed payment is for the full amount owed pursuant to this section and no further department action is required for collection; [1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

B. The payment is accompanied by the required form and the form is complete and accurate; and [1989, c. 585, Pt. A, §7 (NEW).]

C. The letter transmitting the payment that is received by the department is postmarked by the United States Postal Service on or prior to the final day on which the payment is to be received, unless an alternative date is agreed upon in writing by the operator and the department. [1999, c. 385, §9 (AMD).]

[1999, c. 385, §9 (AMD) .]

3. **Discount.** Any operator that makes a timely payment of the fee as provided in this section is entitled to apply against the fee payable a discount of 1% of the amount of the fee collected.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

4. **Refunds.** Any operator who believes the fee was overpaid by the operator may file a petition for refund to the department. If the department determines that the operator has overpaid the fee, the department shall refund to the operator the amount due the operator, together with interest at a rate established by the department.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

5. **Alternative proof of payment.** For purposes of this section, presentation of a receipt indicating that the payment was mailed by registered or certified mail on or before the due date is evidence of timely payment.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

6. **Interest.** If an operator fails to make a timely payment of the fee, the operator shall pay interest on the unpaid amount due at the rate established by the department from the last day for timely payment to the date paid.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

7. **Additional penalty.** In addition to the interest provided in subsection 6, if an operator fails to make timely payment of the fee, 5% of the amount of the fee must be added to the amount actually due if the failure to file a timely payment is for not more than one month, with an additional 5% for each additional month, or fraction of a month, during which the failure continues, not exceeding 25% in the aggregate.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

8. **Assessment notice.** If the department determines that any operator has not made a timely payment of the fee, the department shall send the operator a written notice of the amount of the deficiency, within 30 days of determining the deficiency. When the operator has not provided a complete and accurate statement of the weight or volume of waste received at the facility for the payment period, the department may estimate the weight or volume in the notice.

The operator charged with the deficiency has 30 days to pay the deficiency in full or, if the operator wishes to contest the deficiency, forward the amount of the deficiency to the department for placement in an escrow account with the Treasurer of State or any bank in the State, or post an appeal bond in the amount of the deficiency. The bond must be executed by a surety licensed to do business in the State and be satisfactory to the department. Failure to forward the money or appeal bond to the department within 30 days results in a waiver of all legal rights to contest the deficiency.

If, through the administrative or judicial review of the deficiency, it is determined that the amount of deficiency must be reduced, the department shall within 30 days remit the appropriate amount to the operator, with any interest accumulated by the escrow deposit.

The amount determined after administrative hearing or after waiver of administrative hearing is payable to the department and is collectible.

If any amount due under this subsection remains unpaid 30 days after receipt of notice of the deficiency, the department may order the operator of the facility to cease receiving any solid waste until the amount of the deficiency is completely paid.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

9. **Filing of appeals.** Notwithstanding any other provision of law, all appeals of final department actions concerning the fee must be filed with the department pursuant to section 2206.

[1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A77 (AMD). 1995, c. 465, §C2 (AFF). 1999, c. 385, §9 (AMD).

§2206. HEARINGS AND APPEALS

The department shall establish rules governing procedures for hearings and appeals under this article consistent with Title 5, chapter 375. [1995, c. 465, Pt. A, §77 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §A77 (AMD). 1995, c. 465, §C2 (AFF).

Article 3: REVENUE OBLIGATION SECURITIES AND MORTGAGE LOANS

§2211. DEFINITIONS

As used in this article, unless the context otherwise indicates, the following terms have the following meanings. [1989, c. 585, Pt. A, §7 (NEW).]

1. **Bond.** "Bond" means revenue obligation security.

[1989, c. 585, Pt. A, §7 (NEW) .]

1-A. **Agency.** "Agency" means the Finance Authority of Maine.

[1995, c. 465, Pt. B, §6 (NEW); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Cost of project.** "Cost of project" means the cost or value of land, buildings, real estate improvements, labor, materials, machinery and equipment, property rights, easements, franchises, financing charges, interest, engineering and legal services, plans, specifications, surveys, cost estimates, studies and other expenses as may be necessary or incidental to the development, construction, acquisition, financing and placing in operation of an eligible project. In addition to these costs, reserves for payment of future debt on any revenue obligation securities may be included as part of the cost of the project.

Any obligation or expenses incurred by the State, the agency, a regional association, a municipality or any private person in connection with any of the items of cost specified in this subsection related to revenue obligation securities may be included as part of the cost and reimbursed to the State, the agency, regional association, municipality or person out of the proceeds of the securities issued.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Eligible collateral.** "Eligible collateral" means an eligible project.

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Eligible project.** "Eligible project" means any waste facility or the capital costs of any waste disposal service including, but not limited to, real property, personal property, machinery and equipment and related expenses.

[1989, c. 585, Pt. A, §7 (NEW) .]

5. **Facility.** "Facility" means an eligible project or eligible collateral.

[1989, c. 585, Pt. A, §7 (NEW) .]

6. **Financial document.** "Financial document" means a lease, installment sale agreement, conditional sale agreement, note, mortgage, loan agreement or other instrument pertaining to an extension of financial assistance.

[1989, c. 585, Pt. A, §7 (NEW) .]

7. **Financing assistance.** "Financing assistance" or "financial assistance" means guarantees, leases, insurance, financing credits, loans or the purchase or discounts thereof, letters of credit, financing assistance payments, grants or other financial aid.

[1989, c. 585, Pt. A, §7 (NEW) .]

8. **Financing institution.** "Financing institution" or "financial institution" means any bank, trust company, national banking association, savings bank, savings and loan association, federal savings and loan association, industrial bank, mortgage company, insurance company, credit union, local development corporation or any other institution or entity authorized to do business in this State, or any state or federal agency that customarily provides financing assistance.

[1989, c. 585, Pt. A, §7 (NEW) .]

9. **Lease.** "Lease" means a contract providing for the use of a project or portions of a project for a term of years for a designated or determinable rent. A lease may include an installment sale contract. A lease may include other terms as the agency may permit or require.

[1989, c. 585, Pt. A, §7 (NEW) .]

10. **Lessee.** "Lessee" means a tenant under a lease and may include an installment purchaser.

[1989, c. 585, Pt. A, §7 (NEW) .]

11. **Loan.** "Loan" or "mortgage loan" means an extension of credit made in consideration of a written promise of repayment or any other conditions which may be established by the agency, performance of which may be secured by a mortgage.

[1989, c. 585, Pt. A, §7 (NEW) .]

12. **Maturity date.** "Maturity date" means the date on which final payment is due as provided in a note, revenue obligation security or other financial document.

[1989, c. 585, Pt. A, §7 (NEW) .]

13. **Mortgage.** "Mortgage" means an agreement granting a lien on, or a security interest in, eligible collateral with certain conditions and includes, but is not limited to, a mortgage of real estate, an assignment of rents, a pledge or a security agreement.

[1989, c. 585, Pt. A, §7 (NEW) .]

14. **Mortgagee.** "Mortgagee" means a grantee or obligee under, or a transferee or successor of a grantee or obligee under, a mortgage.

[1989, c. 585, Pt. A, §7 (NEW) .]

15. **Mortgage payments.** "Mortgage payments" means payments required by or received on account of a mortgage or any other financial document, including, but not limited to, payments covering interest, installments of principal, taxes, assessments, loan insurance premiums and hazard insurance premiums.

[1989, c. 585, Pt. A, §7 (NEW) .]

16. **Mortgagor.** "Mortgagor" means the grantor or party giving rights to eligible collateral pursuant to a mortgage and includes the successors or assigns of a mortgagor.

[1989, c. 585, Pt. A, §7 (NEW) .]

17. **Note.** "Note" means an evidence of indebtedness and includes a revenue obligation security.

[1989, c. 585, Pt. A, §7 (NEW) .]

18. **Rent or rental.** "Rent or rental" means payments under a lease.

[1989, c. 585, Pt. A, §7 (NEW) .]

19. **Revenue obligation security.** "Revenue obligation security" or "security" means a note, bond, interim certificate, debenture or other evidence of indebtedness, payment of which is secured by a pledge of revenues, as provided in this article or by assignment or pledge of other eligible collateral.

[1989, c. 585, Pt. A, §7 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1995, c. 465, §B6 (AMD). 1995, c. 465, §C2 (AFF).

§2212. GENERAL POWERS

The agency may, in addition to its other powers and in furtherance of the purposes of this chapter, assist itself or applicants, who shall be limited to municipalities and regional associations, in the financing of eligible projects by issuing revenue obligation securities; by issuing or providing securities for mortgage loans; drafting financial documents, trust agreements and other contracts; and arranging the financing and negotiating for the sale of the securities. The agency may contract with the Finance Authority of Maine to administer the provisions of this article. [1989, c. 585, Pt. A, §7 (NEW).]

The agency may also: [1989, c. 585, Pt. A, §7 (NEW).]

1. **Kinds of projects.** Acquire, construct, reconstruct, maintain, renew, replace or provide financing assistance for eligible waste facilities, waste disposal services or recycling projects;

[1989, c. 585, Pt. A, §7 (NEW) .]

2. **Securities for projects.** Issue revenue obligation securities to pay the cost of or to provide financial assistance for acquisition, construction, reconstruction, renewal or replacement of eligible projects. Any single issue of securities may provide for the cost of, or for financial assistance for, acquisition, construction, reconstruction, renewal or replacement of any one or more eligible projects which may be separate, unconnected and distinct. Any issue, the proceeds of any issue, or any revenue obligation securities shall, except as specifically authorized by the Legislature, meet the requirements of the Internal Revenue Code of 1986, as amended, relating to exempt facility bonds;

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Acquire securities.** Issue revenue obligation securities to acquire one or more issues of revenue obligation securities issued by municipalities or to acquire any other bond not eligible for purchase pursuant to Title 30-A, chapter 225. Any single issue of securities may provide funds for the acquisition of revenue obligation securities of one or more municipalities or of bonds for one or more eligible projects which may be separate, unconnected and distinct;

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Refunding securities.** Issue revenue refunding obligation securities as provided to refund any outstanding revenue obligation securities issued under this article;

[1989, c. 585, Pt. A, §7 (NEW) .]

5. **Serve as broker or agent.** Serve as a broker, agent or other financial intermediary for the secondary marketing of obligations issued or incurred in connection with the financing of eligible projects and for the encouragement of the flow of private funds for capital investment;

[1989, c. 585, Pt. A, §7 (NEW) .]

6. **Facilities.** Plan, carry out, acquire, lease and operate facilities and provide for the construction, reconstruction, improvement, alteration or repair of any facility or any part of a facility;

[1989, c. 585, Pt. A, §7 (NEW) .]

7. **Acquisition and disposal of property.** Acquire or enable an applicant to acquire, upon reasonable terms from funds provided under this article, the lands, structures, property, rights, rights-of-way, franchises, easements and other interests in lands, including lands under water and riparian rights, that are located within the State and considered necessary or convenient for the construction or operation of any eligible waste project, and dispose of them;

[1989, c. 585, Pt. A, §7 (NEW); 1989, c. 869, Pt. A, §15 (AMD) .]

8. **Contracts.** Make and enter into all financial documents and other contracts and trust agreements securing revenue obligation securities issued under this article, provided all expenses are payable solely from funds made available under this article;

[1989, c. 585, Pt. A, §7 (NEW) .]

9. **Consent to modification of contracts, lease or agreement.** To the extent not forbidden under its contract with the holders of bonds, consent to any modification of any contract, lease or agreement of any kind to which the agency is a party;

[1989, c. 585, Pt. A, §7 (NEW) .]

10. **Employment of specialists.** Employ consulting and other engineers, attorneys, accountants, construction and financial experts, superintendents, managers and other necessary employees and agents and fix their compensation, provided all expenses are payable solely from funds made available under this subchapter;

[1989, c. 585, Pt. A, §7 (NEW) .]

11. **Government contracts.** Enter into contracts with regional associations, municipalities, the State or a federal agency relating to any eligible solid waste project;

[1989, c. 585, Pt. A, §7 (NEW) .]

12. **Government aid.** Accept loans or grants for the planning, construction or acquisition of any eligible solid waste project from a municipality, an authorized agency of the State or a federal agency and enter into agreements with the agency respecting the loans or grants. In the case of all loans, grants or other aid involving pollution-control facilities, the consent of the commissioner must first be obtained, notwithstanding section 362;

[1989, c. 585, Pt. A, §7 (NEW); 1989, c. 890, Pt. A, §40 (AFF); 1989, c. 890, Pt. B, §294 (AMD) .]

13. **Private aid.** Receive and accept aid and contributions from any source of money, property, labor or other things of value, to be held, used and applied only for the purposes for which these loans, grants and contributions may be made;

[1989, c. 585, Pt. A, §7 (NEW) .]

14. **Applicability.** Provide financial assistance by means of leases that are not subject to Title 14, section 6010. Leases made under this section may provide that obligations of the lessees are unconditional; and

[1989, c. 585, Pt. A, §7 (NEW) .]

15. **Application.** Provide financial assistance by means of revenue obligation securities which are not subject to Title 32, chapter 135, relating to dealers in securities.

[2005, c. 65, Pt. C, §20 (AMD) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §A15 (AMD). 1989, c. 890, §§A40,B294 (AMD). 2005, c. 65, §C20 (AMD).

§2213. ISSUANCE OF REVENUE OBLIGATION SECURITIES

1. **Notice of intent to issue bonds; actions to contest validity.** The agency may provide, at one time or from time to time, for the issuance of revenue obligation securities of the agency for the purposes authorized in this chapter. No revenue obligation securities of the agency may be issued until:

A. The project has been determined to be consistent with the state plan pursuant to section 1310-AA, if applicable, and the necessary permits have been obtained from the department; [1995, c. 465, Pt. A, §78 (AMD); 1995, c. 465, Pt. C, §2 (AFF).]

B. A notice of the intent of the agency to issue the securities is published at least once in a newspaper of general circulation in the region in which the project is to be located:

(1) No later than 14 days after the date on which the agency decides to issue revenue obligation securities under this subchapter;

(2) Describing the general purpose or purposes for which the securities are to be issued;

(3) Stating the maximum principal amount of the proposed securities; and

(4) Including a statement as to the time within which any petition to contest the issuance of the securities must be commenced. [1989, c. 585, Pt. A, §7 (NEW); 1989, c. 869, Pt. A, §16 (AMD).]

Any action or proceeding in any court to contest the issuance of the securities must be started within 30 days after the date of the publication required by paragraph B and otherwise shall be governed by Title 5, chapter 375, subchapter VII. For the purposes of this subchapter and the Maine Administrative Procedure Act, Title 5, chapter 375, the later date of newspaper publication required by paragraph B shall constitute the final agency action with respect to the issuance of the securities. After the expiration of the 30-day period of limitation, no right of action or defense founded upon the invalidity of the issuance of the securities may be opened to question in any court upon any grounds.

[1995, c. 465, Pt. A, §78 (AMD); 1995, c. 465, Pt. C, §2 (AFF) .]

2. **Treasurer of State as agent.** The Treasurer of State shall, at the direction of the agency, act as the agency's agent for the sale and delivery of revenue obligation securities and anticipatory notes. The Treasurer of State shall assist the agency in the preparation, issuance, negotiation and sale of the securities and notes and provide reasonable advice and management assistance. The agency may employ further counsel or assistants or act in its own behalf, provided that the sale and delivery of revenue obligation securities and anticipatory notes shall be carried out at the agency's direction with and through the Treasurer of State.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Conclusive authorization.** All revenue obligation securities of the agency shall be conclusively presumed to be fully authorized and issued under the laws of the State, and any person or governmental unit shall be estopped from questioning their authorization, sale, issuance, execution or delivery by the agency.

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Maturity; interest.** The securities of each issue of revenue obligation securities shall be dated, mature at a time or times not exceeding 20 years from the date of the securities and bear interest at a rate or rates determined by the agency. At the option of the agency, the securities may be made redeemable before maturity at a price or prices and under terms and conditions fixed prior to issuance.

[1989, c. 585, Pt. A, §7 (NEW) .]

5. **Form.** The agency shall determine the form of the securities, including any attached interest coupons, the manner of execution of the securities, the denomination or denominations of the securities and the place or places for payment of principal and interest, which may be at any financial institution within or without the State. Revenue obligation securities shall be executed in the name of the agency by the manual or facsimile signature of the authorized official or officials. Any attached coupons shall be executed with the manual or facsimile signature of the authorized official or officials. Signatures and facsimiles of signatures on securities and coupons are valid for all purposes even if the authorized official ceases to hold office before delivery of the securities. The securities may be issued in coupon or registered form or both as the agency may determine. Provision may be made for the registration of any coupon securities to principal alone and to both principal and interest, and for the reconversion into coupon securities of any securities registered to both principal and interest. In addition to this subsection, the agency may provide for transfer of registration of the agency's registered revenue obligation securities by book entry on the records of the entity designated for that purpose and may enter into such contractual arrangements as may be necessary to accomplish these purposes. In the

event a book entry method of transfer is used, principal of and interest on those registered securities shall be payable to the registered owner shown in the book entry, the owner's legal representatives, successors or transferees.

[1989, c. 585, Pt. A, §7 (NEW) .]

6. **Sale.** The agency may sell the securities at a public or private sale, in a manner and at a price the agency determines to be in the best interest of the agency. The agency shall not sell the securities to any firm, partnership, corporation or association, including an affiliate or subsidiary, which is a party to any contract pertaining to the financed project or which is to rent, purchase, lease or otherwise occupy premises constituting part of the project. The agency may sell the securities to a seller of the project if the project is to be used and operated by a 3rd party.

[1989, c. 585, Pt. A, §7 (NEW) .]

7. **Proceeds.** The proceeds of each issue shall be used solely for the authorized purposes and shall be disbursed as provided in the securing trust agreement or other document. Administration costs incurred by the agency under this program may be drawn from those proceeds. If the proceeds are less than the cost of the project, by error in the estimate or otherwise, additional securities may be issued in a like manner to provide the amount of the deficit and, unless otherwise provided in the securing trust agreement or other document, the additional securities are deemed to be of the same issue and shall be entitled to payment from the same fund without preference or priority of the securities first issued for the same purpose. The agency may place limits or restrictions on the issuance of additional revenue obligation securities through the securing trust agreement or other document. The agency may provide for the replacement of mutilated, destroyed or lost securities. Revenue obligation securities may be issued under this subchapter without obtaining the consent of any department, division, commission, board, bureau or agency of the State and without any other proceedings or the occurrence of any conditions or things other than those proceedings, conditions or things which are specifically required by this subchapter. Notwithstanding any of the other provisions of this subchapter, or of any recitals in any securities issued under this subchapter, all such securities are deemed to be negotiable instruments issued under the laws of this State.

[1989, c. 585, Pt. A, §7 (NEW) .]

8. **Credit not pledged.** Except as provided in this subsection, securities issued under this subchapter shall not constitute any debt or liability of the State or of any municipality in the State or any political subdivision of the State, or of the agency or a pledge of the faith and credit of the State or of any such municipality or political subdivision, but shall be payable solely from the revenues of the project or projects for which the securities are issued or from other eligible collateral or the revenues or proceeds of other eligible collateral pledged to the payment of the revenue obligation securities and all such securities shall contain on the securities' face a statement to that effect. The issuance of securities under this subchapter shall not directly or indirectly or contingently obligate the State or any municipality or political subdivision to levy or to pledge any form of taxation whatever or to make any appropriation for payment.

[1989, c. 585, Pt. A, §7 (NEW) .]

9. **Anticipatory borrowing.** In anticipation of the sale of securities under this article, the agency may issue temporary notes and renewal notes, the total face amount of which does not exceed at any one time outstanding the authorized amount of the securities. The period of anticipatory borrowing shall not exceed 3 years and the time within which the securities are to become due shall not be extended by the anticipatory borrowing beyond the term permitted by law.

[1989, c. 585, Pt. A, §7 (NEW) .]

10. **Environmental protection.** Revenue obligation securities of the agency may not be issued for a project until the commissioner certifies to the agency that all licenses required by the department with respect to the project are issued or that none are required. Any subsequent enlargement or addition to the project for which approval is sought from the agency requires certification by the commissioner.

[1989, c. 585, Pt. A, §7 (NEW); 1989, c. 890, Pt. A, §40 (AFF); 1989, c. 890, Pt. B, §295 (AMD) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §A16 (AMD). 1989, c. 890, §§A40,B295 (AMD). 1995, c. 465, §A78 (AMD). 1995, c. 465, §C2 (AFF).

§2214. TRUST AGREEMENTS OR OTHER DOCUMENTS

1. **Trust agreements or other documents.** At the discretion of the agency, revenue obligation securities may be issued under this subchapter pursuant to a trust agreement or other document. The trust agreement or other document may:

A. Pledge or assign the revenues or proceeds of the project or projects or other eligible collateral; [1989, c. 585, Pt. A, §7 (NEW).]

B. Set forth the rights and remedies of the security holders and other persons and contain any reasonable and legal provisions for protecting the rights and remedies of the security holders; [1989, c. 585, Pt. A, §7 (NEW).]

C. Restrict the individual right of action by security holders; and [1989, c. 585, Pt. A, §7 (NEW).]

D. Include covenants setting forth the duties of the agency and user in relation to:

(1) Acquisition of property or eligible collateral;

(2) Construction, reconstruction, renewal, replacement and insurance of the project or eligible collateral;

(3) Rents to be charged or other payments to be made for use;

(4) Payment for the project or eligible collateral; and

(5) Custody, safeguarding and application of all money. [1989, c. 585, Pt. A, §7 (NEW).]

Any financial institution may furnish indemnifying bonds or pledge the securities as may be required by the agency.

[1989, c. 585, Pt. A, §7 (NEW) .]

2. **Mortgages.** To further secure the payment of the revenue obligation securities, the trust agreement or other document may mortgage or assign the mortgage of the project, or any part of the project, and create a lien on or security interest in any or all of the project. In the event of a default with respect to the revenue obligation securities, the trustee, mortgagee or other person may be authorized by the trust agreement or other document containing a mortgage or assignment of a mortgage to take possession of, hold, manage and operate all or any part of the mortgaged property and, with or without taking possession, to sell or from time to time lease the property in accordance with law. Any security interest granted by the authority under this chapter may be created and perfected in accordance with the Uniform Commercial Code, Title 11, Article 9-A.

[1999, c. 699, Pt. D, §29 (AMD); 1999, c. 699, Pt. D, §30 (AFF) .]

3. **Additional provisions.** Any trust agreement or other document may contain provisions which shall be a part of the contract with holders of revenue obligation securities as to:

A. Pledging any specified revenues or assets of the agency to secure the payment of the securities, subject to agreements with existing holders of securities; [1989, c. 585, Pt. A, §7 (NEW).]

B. Pledging all or any part of the unencumbered revenues or assets of the agency to secure the payment of securities, subject to agreements with existing holders of securities; [1989, c. 585, Pt. A, §7 (NEW).]

C. Setting aside, regulating and disposing of reserves or sinking funds; [1989, c. 585, Pt. A, §7 (NEW).]

D. Limitations on the purpose to which the proceeds of sale of securities may be applied and the pledge of the proceeds to secure the payment of the securities or of any issue of securities; [1989, c. 585, Pt. A, §7 (NEW).]

E. Limitations on the issuance of additional securities; [1989, c. 585, Pt. A, §7 (NEW).]

F. The terms on which additional securities may be issued and secured and the refunding of outstanding or other securities; [1989, c. 585, Pt. A, §7 (NEW).]

G. The procedure, if any, by which the terms of any contract with holders of securities may be amended or abrogated, including the proportion of the holders which must consent and the manner in which the consent may be given; [1989, c. 585, Pt. A, §7 (NEW).]

H. Limitations on the amount of money to be expended by the agency for operating expenses of the agency; [1989, c. 585, Pt. A, §7 (NEW).]

I. Vesting in a trustee or trustees such property, rights, powers and duties in trust as the agency may determine, which may include any or all of the rights, powers and duties of the trustee appointed by the holders of the securities under this subchapter, and limiting or abrogating the right of the holders of the securities to appoint a trustee under this chapter or limiting the rights, powers and duties of the trustee; [1989, c. 585, Pt. A, §7 (NEW).]

J. Defining the acts or omissions to act which will constitute a default in the obligations and duties of the agency to the holders of the securities and providing for the rights and remedies of the holders of the securities in the event of default, including, as a matter of right, the appointment of a receiver, but only if the rights and remedies are not inconsistent with the laws of the State and other provisions of this subchapter; and [1989, c. 585, Pt. A, §7 (NEW).]

K. Any other matters, of like or different character, which in any way affect the security or protection of the holders of the securities. [1989, c. 585, Pt. A, §7 (NEW).]

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Expenses; pledges.** All expenses incurred in carrying out a trust agreement or financial document may be treated as a part of the cost of the operation of the project. All pledges of revenue or eligible collateral under this subchapter shall be valid and binding from the time when the pledge is made. All the revenues or eligible collateral pledged and later received by the agency shall immediately be subject to the lien of the pledges without any physical delivery or further action under the Uniform Commercial Code or otherwise. The lien of the pledges shall be valid and binding against all parties having claims of any kind in tort, contract or otherwise, against the agency, irrespective of whether the parties have notice thereof.

[1989, c. 585, Pt. A, §7 (NEW) .]

5. **Other provisions.** A trust agreement or financial document may contain other provisions the agency deems reasonable and proper for the security of the security holders.

[1989, c. 585, Pt. A, §7 (NEW) .]

SECTION HISTORY

1989, c. 585, §A7 (NEW). 1999, c. 699, §D29 (AMD). 1999, c. 699, §D30 (AFF).

§2215. RENTALS AND REVENUES

1. **Provisions.** Before issuing revenue obligation securities, the agency shall determine that there shall at all times be revenues and funds sufficient to:

A. Pay the principal and interest of the securities as they become due and payable and, in its discretion, to create and maintain reserves for that purpose; and [1989, c. 585, Pt. A, §7 (NEW).]

B. Pay the cost of maintaining and, where applicable, repairing the project unless provision is made in the financial document or other contract for maintenance and, where applicable, repair. [1989, c. 585, Pt. A, §7 (NEW).]

[1989, c. 585, Pt. A, §7 (NEW) .]

2. **Sinking fund.** All project rentals and other revenues, except those required in subsection 1, paragraph B or to provide reserves for maintenance and, where applicable, repair, may be set aside at regular intervals as provided in the trust agreement or other document and deposited to the credit of a sinking fund charged with payment of the interest and principal of the securities as they fall due, any necessary charges of paying agents for paying principal and interest and the redemption price or the purchase price of securities retired by call or purchase. Use of money deposited to the credit of the sinking fund shall be subject to regulations prescribed in the trust agreement or other document. Except as may otherwise be provided in the trust agreement or other document, the sinking fund shall be a fund for the benefit of all securities issued for the project or projects without distinction or priority of one over another.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Trust funds.** All money received under this subchapter shall be deemed trust funds, to be held and applied solely as provided in this subchapter. Any officer to whom, or any bank, trust company or other fiscal agency or trustee to which, the money shall be paid shall act as trustees of the money and shall hold and apply it for the purposes of this subchapter, subject to the requirements of this subchapter, the trust agreement or other applicable document.

[1989, c. 585, Pt. A, §7 (NEW) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2216. REMEDIES

Any holder of revenue obligation securities or coupons issued under this subchapter and the trustee under any trust agreement, except as restricted by the trust agreement or applicable document, may, by appropriate legal action, protect and enforce any and all rights under the laws of this State or granted under this subchapter, the trust agreement or other document, including the appointment of a receiver, and may enforce and compel the performance of all duties required by this subchapter, the trust agreement or other document to be performed by the agency, including the collecting of rates, fees and charges for the use of the project. Any proceeding shall be brought for the benefit of all holders of the securities and any coupons. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2217. REVENUE REFUNDING SECURITIES

The agency may provide for the issuance of revenue refunding securities of the agency to refund any outstanding revenue securities issued under this subchapter or to refund any obligations or securities of any municipality, including the payment of any redemption premiums and any interest accrued or to accrue to the date of redemption, and, if deemed advisable for the agency, to construct or enable the construction of improvements, extensions, enlargements or additions of the original project. The agency may provide for the issuance of revenue obligation securities of the agency for the combined purpose of refunding any outstanding revenue obligation securities or revenue refunding securities issued under this subchapter or to refund any obligations or securities of any municipality, including the payment of redemption premiums and interest accrued or to accrue and paying all or any part of the cost of acquiring or constructing or enabling the acquisition or construction of any additional project or part of any improvements, extensions, enlargements or additions of any project. The issuance of the securities, the maturities and other details, the rights and remedies of the holders and the rights, powers, privileges, duties and obligations of the agency shall be governed by the provisions of this subchapter insofar as they are applicable. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2218. TAX EXEMPTION

Revenue obligation securities issued under this article shall constitute a proper public purpose and the securities, their transfer and the income from them, including any profits made on their sale, shall at all times be exempt from taxation within the State, whether or not those securities, their transfer or the income from them, including any profits on their sale, are subject to taxation under the United States Internal Revenue Code. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2219. LEASEHOLD OR OTHER INTERESTS OF LESSEE TAXABLE

The interest of the user of any project is subject to taxation in the manner provided for similar interests in Title 36, section 551, subject to Title 36, sections 655 and 656. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2220. BONDS AS LEGAL INVESTMENTS

The revenue obligation securities of the agency and any loan or extension of credit issued under this article shall be legal investments in which all public officers and public bodies of the State, its political subdivisions, all regional associations and municipalities and municipal subdivisions, all insurance companies and associations and other persons carrying on an insurance business, all banks, bankers, banking associations, trust companies, savings banks and savings associations, including savings and loan associations, building and loan associations, investment companies and other persons carrying on a banking business, all administrators, guardians, executors, trustees and other fiduciaries and all other persons who are now or may later be authorized to invest bonds or other obligations of the State, may properly and legally invest funds, including capital, in their control or belonging to them. The revenue obligation securities and any loan or extension of credit which is issued under this subchapter are also made securities, which may properly and legally be deposited with all public officers and bodies of the State or any agency or political

subdivisions and all municipalities and public corporations for any purpose for which the deposit of bonds or other obligations of the State is now or may later be authorized by law. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

§2221. CAPITAL RESERVE FUNDS; OBLIGATION OF STATE

1. **Capital reserve fund.** The agency may create and establish one or more capital reserve funds and may pay into any such capital reserve fund any money appropriated and made available by the State for the purposes of any such fund, any proceeds of sale by the agency of revenue obligation securities to the extent determined by the agency and any other money available to the agency. For purposes of this section, the amount of any letter of credit, insurance contract, surety bond, indemnification agreement or similar financial undertaking available to be drawn on and applied to obligations to which money in any such fund may be applied shall be deemed to be and counted as money in the capital reserve fund.

[1989, c. 585, Pt. A, §7 (NEW) .]

2. **Application.** Money in any capital reserve fund created pursuant to subsection 1, except as provided in this section, shall be used solely with respect to revenue obligation securities or mortgage loans, repayment of which is secured by any such fund and solely for the payment of principal, accrued interest and costs and expenses chargeable to the mortgage loan or securities, the purchase or redemption of the securities, including any fees or premiums or the payment of interest on the securities. Money in excess of the reserve requirement set forth in subsection 3 may be transferred to other funds and accounts of the agency.

[1989, c. 585, Pt. A, §7 (NEW) .]

3. **Reserve requirement.** The agency may provide that money in any such fund shall not be withdrawn at any time in an amount which would reduce the amount of any such fund to less than the maximum amount of principal and interest becoming due and payable under any applicable trust agreement or other agreement in the next succeeding 12-month period, the amount being referred to as the capital reserve requirement, except for the purpose of paying the amount due and payable with respect to revenue obligation securities or mortgage loans, repayment of which is secured by any such fund.

[1989, c. 585, Pt. A, §7 (NEW) .]

4. **Issuance limit.** The agency may provide that it shall not issue revenue obligation securities if the capital reserve requirement with respect to securities outstanding and then to be issued and secured by any such fund will exceed the amount of any such fund, including the amount available to be drawn on any letter of credit given to secure the capital reserve requirement, at the time of issuance, unless the agency, at the time of issuance of the securities, shall deposit in any such fund from proceeds of the securities to be issued, or from other sources, an amount which, together with the amounts then in any such fund and amounts available to be drawn under any letter of credit, will not be less than the capital reserve requirement.

[1989, c. 585, Pt. A, §7 (NEW) .]

5. **Security for mortgage loans.** With respect to any mortgage loans which may be secured under this article, the agency may provide that such mortgage loans shall be secured by one or more capital reserve funds established pursuant to subsection 1. Any commitment with respect to a mortgage loan executed and delivered pursuant to this section shall be conclusive evidence of the eligibility of the mortgage loan for capital reserve fund security and the validity of any such commitment or contract shall be incontestable in the hands of a mortgage lender except for fraud or misrepresentation on the part of the mortgage lender.

Mortgages secured by capital reserve funds under this section are made legal investments for all insurance companies, trust companies, banks, investment companies, savings banks, savings and loan associations, executors, trustees and other fiduciaries, public and private pension or retirement funds and other persons.

[1989, c. 585, Pt. A, §7 (NEW) .]

6. **Appropriation.** On or before December 1st, annually, the agency shall certify to the Governor the amount, if any, necessary to restore the amount in any capital reserve fund, to which this subsection is stated in any written agreement, the trust agreement or other document to apply, to the capital reserve requirement. The Governor shall pay directly from the State Contingent Account to any such fund as much of the amount as is available in that account, as determined by the Governor, and shall transmit directly to the Legislature certification and a statement of the amount, if any, remaining to be paid. The certified amount shall be appropriated and paid to the agency during the current state fiscal year.

[1989, c. 585, Pt. A, §7 (NEW) .]

7. **Obligations and securities outstanding.** The agency may not have at any one time outstanding obligations or revenue obligation securities to which subsection 6 is stated in any agreement or the trust agreement or other document to apply in principal amount exceeding an amount equal to $50,000,000. This subsection constitutes specific legislative approval to issue up to $50,000,000 in tax-exempt revenue obligation securities. The amount of revenue obligation securities issued to refund securities previously issued may not be taken into account in determining the principal amount of securities outstanding, provided that proceeds of the refunding securities are applied as promptly as possible to the refunding of the previously issued securities. In computing the total amount of revenue obligation securities of the agency that may at any time be outstanding for any purpose, the amount of the outstanding revenue obligation securities that have been issued as capital appreciation bonds or as similar instruments shall be valued as of any date of calculation at their then current accreted value rather than their face value.

[1989, c. 585, Pt. A, §7 (NEW); 1989, c. 869, Pt. A, §17 (AMD) .]

SECTION HISTORY
1989, c. 585, §A7 (NEW). 1989, c. 869, §A17 (AMD).

§2222. TAXABLE BOND OPTION

With respect to all or any portion of any issue of any bonds or any series of bonds which the agency may issue in accordance with the limitations and restrictions of this subchapter, the agency may covenant and consent that the interest on the bonds shall be includable, under the United States Internal Revenue Code of 1986, as amended, or any subsequent corresponding internal revenue law of the United States, in the gross income of the holders of the bonds to the same extent and in the same manner that the interest on bills, bonds, notes or other obligations of the United States is includable in the gross income of the holders under the United States Internal Revenue Code or any subsequent law. The foregoing grant of power shall not be construed as limiting the inherent power of the State or its agencies under any other provision of law to issue debt, the interest on which is includable in the gross income of the holders of the interest under the United States Internal Revenue Code or any subsequent law. [1989, c. 585, Pt. A, §7 (NEW).]

SECTION HISTORY
1989, c. 585, §A7 (NEW).

Subchapter 8: INCINERATION PLANT FINANCIAL STATEMENTS

§2231. DEFINITIONS

As used in this subchapter, unless the context otherwise indicates, the following terms have the following meanings. [1991, c. 676, §1 (NEW).]

1. **Incineration facility.** "Incineration facility" means a facility that accepts municipal solid waste for consideration and disposes of the waste through combustion, including combustion for the generation of heat, steam or electricity. A facility that incinerates municipal solid waste in amounts that constitute less than 2% by weight of its fuel is not an incineration facility.

[1991, c. 676, §1 (NEW) .]

2. **Solid waste.** "Solid waste" means useless, unwanted or discarded solid material with insufficient liquid content to be free flowing, including, but not limited to, rubbish, garbage, scrap materials, junk, refuse, inert fill material and landscape refuse. "Solid waste" includes fuel, whether solid, liquid or gas, derived from materials such as those listed.

[1991, c. 676, §1 (NEW) .]

3. **Tipping fee.** "Tipping fee" means any fee, rate, toll or other charge that an incineration facility charges for disposal of solid waste from the facility's customers.

[1991, c. 676, §1 (NEW) .]

4. **Waste source.** "Waste source" means any entity that pays a tipping fee to an incineration facility.

[1991, c. 676, §1 (NEW) .]

SECTION HISTORY
1991, c. 676, §1 (NEW).

§2232. REPORTING

An incineration facility shall submit an annual report to the department no later than 90 days after the end of the incineration facility's fiscal year. For reasonable cause shown and upon written application by an incineration facility, the department may grant an extension of the 90-day period. The report must be certified by an appropriate executive officer of the incineration facility as being complete and accurate. The department may prescribe the form of the annual report and the number of copies that must be submitted. The report must include the following information: [2011, c. 655, Pt. GG, §65 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

1. **Waste.** The total weight in tons of all solid waste received by the incineration facility in the last completed fiscal year and each month of that year and a breakdown of these totals according to the waste sources;

[1991, c. 676, §1 (NEW) .]

2. **Tipping fee.** A schedule of various tipping fees imposed by the incineration facility on the incineration facility's municipal and commercial customers over the last completed fiscal year including an identification of all changes in those fees and a similar schedule of fees to be imposed on municipal and commercial customers for the next fiscal year. The tipping fees for commercial customers must be set out separately by each rate charged to each category of commercial customer;

[1991, c. 676, §1 (NEW) .]

3. **Revenue.** The total revenue of the incineration facility from all sources for the last completed fiscal year and each month of that year. Revenue figures must identify revenues from each revenue source, including, but not limited to, tipping fees and any revenue from sales of electricity to transmission and distribution utilities;

[1999, c. 657, §27 (AMD) .]

4. **Expenditures.** The total expenditures of the incineration facility during the last completed fiscal year including details of those expenditures as required by the department; and

[2011, c. 655, Pt. GG, §66 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

5. **Other information.** Any other information required by the department.

[2011, c. 655, Pt. GG, §66 (AMD); 2011, c. 655, Pt. GG, §70 (AFF) .]

SECTION HISTORY
1991, c. 676, §1 (NEW). 1995, c. 656, §§A65,66 (AMD). 1999, c. 657, §27 (AMD). 2011, c. 655, Pt. GG, §§65, 66 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2233. CIVIL VIOLATION

A person that violates any requirement of section 2232 commits a civil violation for which a forfeiture not to exceed $200 may be adjudged. Each day of a violation is considered a separate offense. [1991, c. 676, §1 (NEW).]

SECTION HISTORY
1991, c. 676, §1 (NEW).

§2234. CIVIL PENALTY

A person that certifies a report under section 2232 as being complete and accurate and who knows that the report is either incomplete or inaccurate is subject to a civil penalty not to exceed $500, payable to the State. This penalty is recoverable in a civil action. [1991, c. 676, §1 (NEW).]

SECTION HISTORY
1991, c. 676, §1 (NEW).

§2235. USE OF FILES

The department shall keep on file for public inspection and use all reports submitted under this subchapter. [2011, c. 655, Pt. GG, §67 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1991, c. 676, §1 (NEW). 1995, c. 656, §A67 (AMD). 2011, c. 655, Pt. GG, §67 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

§2236. LIMITATION

Nothing in this subchapter may be construed to create or expand any authority of the department over financial, organizational or rate regulation of incineration facilities. [2011, c. 655, Pt. GG, §68 (AMD); 2011, c. 655, Pt. GG, §70 (AFF).]

SECTION HISTORY
1991, c. 676, §1 (NEW). RR 1993, c. 1, §138 (COR). 1995, c. 656, §A68 (AMD). 2011, c. 655, Pt. GG, §68 (AMD). 2011, c. 655, Pt. GG, §70 (AFF).

Title 38: WATERS AND NAVIGATION

Chapter 27: PRIORITY TOXIC CHEMICAL USE REDUCTION

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§2321. TOXIC CHEMICAL REDUCTION POLICY; DEPARTMENT DUTY

It is the policy of the State, consistent with its duty to protect the health, safety and welfare of its citizens and the quality of the environment, to continually and as expeditiously as practicable reduce the use of toxic chemicals, particularly those identified by the State as being priority toxic chemicals, by commercial and industrial facilities through comprehensive environmental management practices, the use of inherently safer products, the use of materials and processes that are reasonably available and the more efficient use of resources. The department shall work with commercial and industrial facilities to establish goals to reduce the use of priority toxic chemicals based on the reasonable availability of safer alternatives and other factors. The policy represented in this chapter is consistent with the reduction of toxic chemicals in children's products under chapter 16-D. [2009, c. 579, Pt. A, §3 (NEW).]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2322. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings. [2009, c. 579, Pt. A, §3 (NEW).]

1. **Alternative.** "Alternative" means a substitute process, product, material, chemical, strategy or a combination of these that serves a purpose functionally equivalent to that of a priority toxic chemical used by a commercial and industrial facility.

[2009, c. 579, Pt. A, §3 (NEW) .]

2. **Commercial and industrial facility or facility.** "Commercial and industrial facility" or "facility" means an entity:

A. With an economic sector or industry code under the North American Industry Classification System of the United States Department of Commerce, United States Census Bureau; and [2009, c. 579, Pt. A, §3 (NEW).]

B. Located in the State. [2009, c. 579, Pt. A, §3 (NEW).]

[2009, c. 579, Pt. A, §3 (NEW) .]

3. **Environmental management system.** "Environmental management system" means a part of an overall management system of a facility and includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy of the facility through documented systematic procedures.

[2009, c. 579, Pt. A, §3 (NEW) .]

4. **Priority toxic chemical.** "Priority toxic chemical" means a chemical that has been identified by the department pursuant to section 2323.

[2009, c. 579, Pt. A, §3 (NEW) .]

5. **Reasonably available.** "Reasonably available" means practicable based on cost, efficacy, availability and other factors as determined by the department.

[2009, c. 579, Pt. A, §3 (NEW) .]

6. **Safer alternative.** "Safer alternative" has the same meaning as in section 1691, subsection 12.

[2009, c. 579, Pt. A, §3 (NEW) .]

7. **SARA.** "SARA" means the Superfund Amendments and Reauthorization Act of 1986, Public Law 99-499.

[2009, c. 579, Pt. A, §3 (NEW) .]

8. **Toxic chemical.** "Toxic chemical" means a chemical that has been identified as a chemical of concern pursuant to section 1693 or a chemical the use or release of which is subject to reporting under the SARA, Title III, Section 312 or 313.

[2011, c. 319, §12 (AMD) .]

9. **Use.** "Use" means to manufacture, process or otherwise use a priority toxic chemical or to use a product or material that contains a priority toxic chemical if so designated by the department in rules adopted under this chapter.

[2009, c. 579, Pt. A, §3 (NEW) .]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW). 2011, c. 319, §12 (AMD).

§2323. IDENTIFICATION OF PRIORITY TOXIC CHEMICALS

1. **Identification of chemicals.** By July 1, 2011, the department, in consultation with the Department of Health and Human Services, Maine Center for Disease Control and Prevention, shall establish by rule a list of no more than 10 priority toxic chemicals.

A. A chemical may be included on the list only if it has been identified on the basis of credible scientific evidence by an authoritative state or federal governmental agency, or on the basis of other scientific evidence considered authoritative by the department, as being known as or reasonably anticipated to be:

(1) A carcinogen, a reproductive or developmental toxicant or an endocrine disruptor;

(2) Persistent, bioaccumulative and toxic; or

(3) Very persistent and very bioaccumulative. [2009, c. 579, Pt. A, §3 (NEW).]

B. In determining whether to include a chemical on the list, the department may consider the following factors:

(1) The risk of worker exposure to the chemical;

(2) The threat posed to human health and the environment;

(3) The threat to the health and safety of a community if the chemical is released accidentally;

(4) The pervasiveness of the chemical’s use in the State; and

(5) The existence of a reasonably available safer alternative. [2009, c. 579, Pt. A, §3 (NEW).]

[2009, c. 579, Pt. A, §3 (NEW) .]

2. **Review and revision of list.** The department shall review and revise the list under subsection 1 every 3 years, except that the department may revise the list more frequently if it determines that the addition of a toxic chemical to the list of priority toxic chemicals is necessary to protect human health and the environment or if more credible and recent scientific evidence justifies deletion of a chemical from the list.

[2009, c. 579, Pt. A, §3 (NEW) .]

3. **Identification of products and materials containing priority toxic chemical.** The department, in consultation with the Department of Health and Human Services, Maine Center for Disease Control and Prevention, may identify by rule products and materials containing a priority toxic chemical and may specify that use of those products and materials is subject to the requirements of this chapter.

[2009, c. 579, Pt. A, §3 (NEW) .]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2324. REPORTING USE OF PRIORITY TOXIC CHEMICALS

Beginning July 1, 2013, a commercial and industrial facility that uses in excess of 1,000 pounds of a priority toxic chemical during any calendar year shall file a report with the department pursuant to this section. The department may establish a different reporting threshold for a particular priority toxic chemical. [2009, c. 579, Pt. A, §3 (NEW).]

1. **Calculation of threshold.** In making the calculation of the threshold under this section, the facility is not required to include quantities of the priority toxic chemical in a mixture or trade name product at less than 1.0%, unless the chemical is a carcinogen as determined under 29 Code of Federal Regulations, Part 1910, Section 1200(d)(4) (2009). If the chemical is a carcinogen under 29 Code of Federal Regulations, Part 1910, Section 1200(d)(4) (2009), the facility is not required to include quantities of the chemical at less than 0.1%.

A. The identity of a priority toxic chemical in a mixture or trade name product must be determined using the specific name of the chemical with a corresponding chemical abstracts service registry number that appears on the material safety data sheet required under 29 Code of Federal Regulations, Part 1910, Section 1200 (2009) referred to in this subsection as "the material safety data sheet." [2009, c. 579, Pt. A, §3 (NEW).]

B. To quantify the amount of a priority toxic chemical, a commercial and industrial facility may rely on the material safety data sheet or other information that is in the possession of the facility, unless the facility knows or it is generally known in the industry based on widely disseminated industry information that the material safety data sheet or other information is inaccurate or incomplete, based on existing reliable test data or other reliable published scientific evidence. A facility is not required to test or perform file searches to identify or quantify the amount of a priority toxic chemical in a mixture or trade name product. A facility is not required to evaluate a chemical unless the facility does not rely on the evaluation performed by the preparer of the material safety data sheet. [2009, c. 579, Pt. A, §3 (NEW).]

[2009, c. 579, Pt. A, §3 (NEW) .]

2. **Reports.** Reports required under this section must be filed annually by July 1st and must include information for the prior calendar year. The department may not require reports under this section less than 18 months after a priority toxic chemical has been identified pursuant to section 2323. The department shall prepare a reporting form that requires submission of the following information:

A. The amount of a priority toxic chemical used by the facility in its manufacture or production process during the reporting period; [2009, c. 579, Pt. A, §3 (NEW).]

B. The increase or decrease in use of a priority toxic chemical by the facility since 2010, unless the facility has set another baseline year subsequent to the year 2005, which baseline year must be specified; [2009, c. 579, Pt. A, §3 (NEW).]

C. Beginning with reporting year 2014, the increase or decrease in use of a priority toxic chemical by the facility since the prior reporting period and an explanation for any increase in use of any priority toxic chemical that exceeds 15%; [2009, c. 579, Pt. A, §3 (NEW).]

D. A written certification signed by a senior official with management responsibility that the owner or operator of the facility has prepared a pollution prevention plan under section 2325 or has implemented an environmental management system and that the plan or environmental management system is available on site for the department's inspection in accordance with section 2325; and [2009, c. 579, Pt. A, §3 (NEW).]

E. A statement that employees have been notified of and involved in the pollution prevention plan or environmental management system under section 2325. [2009, c. 579, Pt. A, §3 (NEW).]

[2009, c. 579, Pt. A, §3 (NEW) .]

3. **Confidentiality.** Information submitted to the department pursuant to this section may be designated as confidential by the submitting party in accordance with the provisions in section 1310-B and, if the information is so designated, the provisions of section 1310-B apply.

[2009, c. 579, Pt. A, §3 (NEW) .]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2325. POLLUTION PREVENTION PLANS AND REDUCTION GOALS

Unless otherwise provided in this section, an owner or operator of a facility subject to the reporting requirements in section 2324 shall develop by July 1, 2012 and update at least every 2 years thereafter a pollution prevention plan. [2009, c. 579, Pt. A, §3 (NEW).]

1. **Plan requirements.** A pollution prevention plan must include, at a minimum, the following:

A. A statement of facility-wide management policy regarding toxics use reduction; [2009, c. 579, Pt. A, §3 (NEW).]

B. Identification, characterization and accounting of the types and amounts of all priority toxic chemicals used at the facility; [2009, c. 579, Pt. A, §3 (NEW).]

C. Identification, analysis and evaluation of any appropriate technologies, procedures, processes, chemical alternatives, equipment or production changes that may be used by the facility to reduce the amount or toxicity of priority toxic chemicals used including a financial analysis of the costs and benefits of reducing the amount of priority toxic chemicals used; [2009, c. 579, Pt. A, §3 (NEW).]

D. A strategy and schedule for implementing practicable reduction options for each priority toxic chemical; [2009, c. 579, Pt. A, §3 (NEW).]

E. A program for maintaining records on priority toxic chemical use and management costs, such as the costs of personal protection equipment, liability insurance, training, chemical storage and disposal; [2009, c. 579, Pt. A, §3 (NEW).]

F. The facility's goal for reducing use of priority toxic chemicals and products and materials containing such chemicals; [2009, c. 579, Pt. A, §3 (NEW).]

G. An employee awareness and training program that informs employees of the use of priority toxic chemicals by the facility and involves employees in achieving the established reduction goal under this subsection; and [2009, c. 579, Pt. A, §3 (NEW).]

H. An assessment of alternatives explored to reduce use of priority toxic chemicals that is prepared according to standard methods or guidelines for conducting alternatives assessments made available by the department. [2009, c. 579, Pt. A, §3 (NEW).]

[2009, c. 579, Pt. A, §3 (NEW) .]

2. **Environmental management system.** A facility that has an environmental management system that is audited by a 3rd party or reviewed by the department and that includes a plan to reduce use of priority toxic chemicals and of products and materials containing priority toxic chemicals meets the planning requirements of this section.

[2009, c. 579, Pt. A, §3 (NEW) .]

3. **Plan retention.** A pollution prevention plan must be finalized, approved and signed by a senior official with management responsibility. An owner or operator of a facility shall keep a complete copy of the pollution prevention plan or environmental management system and any backup data on the premises of that facility for at least 5 years and make the copy and data available to employees of the department for inspection during business hours upon request. The department may require the owner or operator of a facility to make any modifications to a plan or environmental management system to maintain consistency with the policy of this chapter.

[2009, c. 579, Pt. A, §3 (NEW) .]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2326. TECHNICAL ASSISTANCE AND RECOGNITION PROGRAMS

The department shall develop a technical assistance program for commercial and industrial facilities that use priority toxic chemicals and products and materials containing priority toxic chemicals. The goal of a technical assistance program must be to reduce use of priority toxic chemicals by such facilities and to help these facilities achieve the reduction goals established in their environmental management systems or pollution prevention plans under section 2325. The department shall determine the facilities most in need of technical assistance and shall establish priorities based on a number of factors, including, but not limited to, the availability of safer alternatives, the toxicity of the chemical used by particular facilities, the size and resources of those facilities and the resources available to the department. [2009, c. 579, Pt. A, §3 (NEW).]

The department may develop a recognition program to promote the reduction in use of priority toxic chemicals and to recognize commercial and industrial facilities in the State for their achievements in reducing their use of priority toxic chemicals. [2009, c. 579, Pt. A, §3 (NEW).]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2327. PENALTIES

The owner or operator of a facility subject to the requirements of this chapter that fails to meet any requirement of this chapter is subject to penalties under section 349. [2009, c. 579, Pt. A, §3 (NEW).]

SECTION HISTORY

2009, c. 579, Pt. A, §3 (NEW).

§2328. EXEMPTIONS

The department may exempt classes of facilities and specific uses of priority toxic chemicals by commercial and industrial facilities from the requirements of this chapter if the department determines that no reasonably available safer alternative exists, that the chemical is naturally occurring or that application of this chapter is unlikely to result in the reduction of the use of a priority toxic chemical. [2009, c. 579, Pt. A, §3 (NEW).]

A facility subject to the requirements of this chapter may file an application for an exemption from some or all of the requirements of this chapter on a form developed by the department. The department shall rule on a request for an exemption within 120 days of receipt of an application. [2009, c. 579, Pt. A, §3 (NEW).]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2329. RULES

The department shall adopt rules to implement this chapter. Rules adopted by the department pursuant to this section are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A. [2009, c. 579, Pt. A, §3 (NEW).]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§2330. FEES

The commissioner shall deposit all money received in payment of fees under this section in a separate nonlapsing account within the Maine Hazardous Waste Fund to cover expenses incurred by the department in the administration of this chapter. [2009, c. 579, Pt. A, §3 (NEW).]

1. **Facilities subject to reporting under SARA, Title III, Section 312.** An owner or operator of a facility that is required to report the presence of extremely hazardous substances under the SARA, Title III, Section 312 shall submit $100 for each extremely hazardous substance reported by the facility to the department annually by October 1st. For purposes of this subsection, "extremely hazardous substance" has the same meaning set forth in the SARA, Title III, Section 302 and listed in 40 Code of Federal Regulations, Part 355.

[2009, c. 579, Pt. A, §3 (NEW) .]

2. **Facilities subject to reporting under SARA, Title III, Section 313.** An owner or operator of a facility that is required to report the release of chemicals under the SARA, Title III, Section 313 shall submit $100 for each toxic release inventory chemical reported by the facility to the department annually by October 1st. For purposes of this subsection, "toxic release inventory chemical" means any substance in a gaseous, liquid or solid state listed pursuant to the SARA, Title III, Section 313 and listed in 40 Code of Federal Regulations, Part 372.65.

[2009, c. 579, Pt. A, §3 (NEW) .]

3. **Hazardous waste generators.** Generators that ship 661 pounds or more of hazardous waste in a calendar year shall pay the following fees to the department annually by October 1st: for generators that ship 5,000 pounds or more of hazardous waste in a calendar year, the fee is $1,000; for generators that ship

between 2,640 pounds and 4,999 pounds per calendar year, the fee is $500; and for generators that ship between 661 pounds and 2,639 pounds per calendar year, the fee is $100. Generators that ship less than 661 pounds of hazardous waste in a calendar year are not required to pay fees under this section.

[2009, c. 579, Pt. A, §3 (NEW) .]

4. **Fee limitation.** A facility subject to fees under this section may not be assessed more than $1,000 per year.

[2009, c. 579, Pt. A, §3 (NEW) .]

5. **Effective date.** This section takes effect July 1, 2012.

[2009, c. 579, Pt. A, §3 (NEW) .]

SECTION HISTORY
2009, c. 579, Pt. A, §3 (NEW).

§1764. LIFE-CYCLE COSTS

1. **Bureau of General Services to adopt rules and procedures.** The Bureau of General Services shall adopt rules, including energy conservation guidelines that conform as a minimum to the energy efficiency building performance standards adopted by the Department of Economic and Community Development for conducting an energy-related life-cycle costs analysis of alternative architectural or engineering designs, or both, and shall evaluate the efficiency of energy utilization for designs in the construction and lease of public improvements and public school facilities. Any rules adopted take effect 90 days after the enactment of this subchapter.

[1997, c. 541, §2 (AMD) .]

2. **Life-cycle costs.** Any life-cycle costs must include:

A. The reasonably expected energy costs over the life of the building, as determined by the designer, that are required to maintain illumination, power, temperature, humidity and ventilation and all other energy-consuming equipment in a facility; [1997, c. 541, §2 (AMD).]

B. The reasonable energy-related costs of probable maintenance, including labor and materials and operation of the building, replacement costs over the expected life of the facility and any other ownership cost issues identified by the Bureau of General Services; and [1997, c. 541, §2 (AMD).]

C. A comparison of energy-related and economic-related design alternatives. The Bureau of General Services may direct the designer to select, include and develop life-cycle costs for any viable alternatives that should be considered. [1997, c. 541, §2 (NEW).]

[1997, c. 541, §2 (AMD) .]

3. **Determination of life-cycle costs.** To determine the life-cycle costs, the Bureau of General Services shall adopt rules that include but are not limited to:

A. The orientation and integration of the facility with respect to its physical site; [1977, c. 563, §2 (RPR).]

B. The amount and type of glass employed in the facility and the directions of exposure; [1977, c. 563, §2 (RPR).]

C. The effect of insulation incorporated into the facility design and the effect on solar utilization to the properties of external surfaces; [1977, c. 563, §2 (RPR).]

D. The variable occupancy and operating conditions of the facility and subportions of the facility; [2007, c. 671, §1 (AMD).]

E. Energy consumption analysis of the major equipment of the facility's heating, ventilating and cooling system, lighting system, hot water system and all other major energy-consuming equipment and systems as appropriate. This analysis must include:

(1) The comparison of alternative systems;

(2) A projection of the annual energy consumption of major energy-consuming equipment and systems for a range of operations of the facility over the life of the facility; and

(3) The evaluation of the energy consumption of component equipment in each system, considering operation of the components at other than full or rated outputs; and [2007, c. 671, §2 (AMD).]

F. The cost-effectiveness of integrating wind or solar electricity generating equipment into the design and construction of the facility. [2007, c. 671, §3 (NEW).]

[2007, c. 671, §§1-3 (AMD) .]

4. **Annual updating of rules.** Rules must be based on the best currently available methods of analysis and provisions must be made for an annual updating of rules and standards as required.

[1997, c. 541, §2 (AMD) .]

SECTION HISTORY
1977, c. 320, (NEW). 1977, c. 563, §1 (RP). 1977, c. 563, §2 (REEN). 1981, c. 353, §2 (AMD). 1989, c. 501, §DD2 (AMD). 1997, c. 541, §2 (AMD). 2007, c. 671, §§1-3 (AMD).

Maine Department of Environmental Protection

ACTIVE/LICENSED TRANSFER STATIONS

Location	Licensee	Address	Telephone	DEP Number
ABBOT	ABBOT, TOWN OF	P.O. BOX 120, ABBOT, ME 04406	(207) 876-3340	S-021079-WH- A-E
ACTON	ACTON, TOWN OF	35 H ROAD, ACTON, ME 04001	(207) 636-3839	S-014134-WH- B-R
ALBANY TWP	WATERFORD, TOWN OF	366 VALLEY RD, WATERFORD, ME 04088	(207) 583-4403	S-020951-WH- A-E
ALFRED	ALFRED, TOWN OF	PO BOX 850, ALFRED, ME 04002	(207) 324-5872	S-006402-WH- B-E
ALLAGASH	ALLAGASH, TOWN OF	1063 ALLAGASH RD, ALLAGASH, ME 04774	(207) 398-3198	S-021913-WH- A-E
ANDOVER	ANDOVER, TOWN OF	PO BOX 219, ANDOVER, ME 04216	(207) 392-3302	S-021175-WH- A-E
ARUNDEL	ARUNDEL, TOWN OF	468 LIMERICK ROAD, ARUNDEL, ME 04046	(207) 985-7523	S-020492-WH- A-E
ASHLAND	AVSWDD	PO BOX 267, ASHLAND, ME 04732	(207) 435-2311	S-021120-WH- A-E
ATHENS	ATHENS, TOWN OF	P.O. BOX 146, ATHENS, ME 04912	(207) 654-3471	S-021186-WH- A-E
AUBURN	ALMIGHTY WASTE	PO BOX 1234, AUBURN, ME 04211	(207) 782-4000	S-022129-WH- A-N
BAILEYVILLE	BAILEYVILLE, TOWN OF	PO BOX 370, WOODLAND, ME 04694	(207) 427-3442	S-021551-WH- A-E
BAR HARBOR	BAR HARBOR, TOWN OF	50 PUBLIC WORKS WAY, BAR HARBOR, ME 04609		S-014480-WH- A-E
BELFAST	BELFAST, CITY OF	131 CHURCH STREET, BELFAST, ME 04915	(207) 338-3370	S-020645-WH- A-N
BELGRADE	BELGRADE, TOWN OF	990 AUGUSTA RD., BELGRADE, ME 04917	(207) 495-2258	S-020917-WH- A-E
BERWICK	BERWICK, TOWN OF	11 SULLIVAN ST, BERWICK, ME 03901		S-006567-WH- A-R
BETHEL	BETHEL, TOWN OF	PO BOX 1660, BETHEL, ME 04217	(207) 824-2669	S-020828-WH- B-E
BIDDEFORD	BIDDEFORD, CITY OF	371 HILL STREET, BIDDEFORD, ME 04005	(207) 282-1579	S-021959-WH- A-N
BLUE HILL	BLUE HILL, TOWN OF	18 UNION STREET, BLUE HILL, ME 04614	(207) 374-2281	S-010283-WH- D-R
BOOTHBAY	BOOTHBAY REGION REFUSE DD	POB 105, BOOTHBAY, ME 04537	(207) 633-5006	S-013007-WH- J-R
BRIDGEWATER	BRIDGEWATER, TOWN OF	PO BOX 215, BRIDGEWATER, ME 04735	(207) 429-9856	S-021239-WH- A-E
BRIDGTON	BRIDGTON, TOWN OF	1 CHASE COMMON, BRIDGTON, ME 04009	(207) 647-8786	S-011323-WH- D-R
BRIGHTON PLT	BRIGHTON PLANTATION	PO BOX 126, ATHENS, ME 04912	(207) 654-2369	S-021701-WH- A-N
BRISTOL	BRISTOL, TOWN OF	PO BOX 147, BRISTOL, ME 04539	(207) 677-2116	S-014388-WH- D-R
BROOKS	BROOKS, TOWN OF	PO BOX 5, BROOKS, ME 04951	(207) 722-3254	S-021180-WH- A-E
BROWNFIELD	BROWNFIELD, TOWN OF	82 MAIN ST, BROWNFIELD, ME 04010	(207) 935-2152	S-020990-WH- A-E
BUCKFIELD	BUCKFIELD, SUMNER, TOWNS OF	P.O. BOX 179, BUCKFIELD, ME 04220	(207) 336-2521	S-005031-WH- A-R
BUCKSPORT	BUCKSPORT, TOWN OF	PO DRAWER X, BUCKSPORT, ME 04416	(207) 469-7368	S-003557-WH- A-R
BURLINGTON	BURLINGTON, LOWELL, TOWNS OF	PO BOX 70, BURLINGTON, ME 04417	(207) 732-4477	S-021010-WH- A-E
BURNHAM	BURNHAM, TOWN OF	247 SOUTH HORSEBACK ROAD, BURNHAM, ME 04922	(207) 948-2369	S-008222-WH- A-R
BUXTON	BUXTON, TOWN OF	185 PORTLAND ROAD, BUXTON, ME 04093	(207) 929-5191	S-020852-WH- A-N
CALAIS	CALAIS, CITY OF	PO BOX 413, CALAIS, ME 04619	(207) 454-2521	S-021614-WH- A-E
CANTON	CANTON, TOWN OF	94 TURNER STREET, CANTON, ME 04221	(207) 597-2920	S-021406-WH- A-N
CAPE ELIZABETH	CAPE ELIZABETH, TOWN OF	PO BOX 6260, CAPE ELIZABETH, ME 04107	(207) 799-5251	S-005045-WH- A-R

Location	Licensee	Address	Telephone	DEP Number
CARRABASSETT VALLEY	CARRABASSETT VALLEY, TOWN OF	1001 CARRIAGE RD, CARRABASSETT VALLEY, ME 04947	(207) 235-2646	S-010950-WH- C-E
CARTHAGE	CARTHAGE, TOWN OF	703A CARTHAGE RD, CARTHAGE, ME 04224	(207) 562-8874	S-021440-WH- A-E
CASCO	CASCO, TOWN OF	PO BOX 38, CASCO, ME 04015	(207) 627-4515	S-015619-WH- B-R
CASTINE	CASTINE, TOWN OF	P.O. BOX 204, CASTINE, ME 04421	(207) 326-4502	S-020964-WH- A-E
CHERRYFIELD	CHERRYFIELD, TOWN OF	PO BOX 58, CHERRYFIELD, ME 04622	(207) 546-2376	S-021051-WH- A-E
CHINA	CHINA, TOWN OF	571 LAKEVIEW, SOUTH CHINA, ME 04358		S-015054-WH- A-N
CLINTON	CLINTON, TOWN OF	27 BAKER ST, CLINTON, ME 04927		S-008148-WH- A-R
COLUMBIA	MARK WRIGHT CONSTRUCTION D/B/A MARK W	PO BOX 211, COLUMBIA, ME 04623	(207) 483-4444	S-022344-WH- A-E
COLUMBIA FALLS	PLEASANT RIVER SOLID WASTE DD	PO BOX 279, COLUMBIA FALLS, ME 04623	(207) 483-4490	S-021163-WH- B-E
CONCORD TWP	BINGHAM, TOWN OF	P.O. BOX 652, BINGHAM, ME 04920	(207) 672-5519	S-021053-WH- A-E
COPLIN PLT	EUSTIS, TOWN OF	MAIN STREET, P.O. BOX 350, STRATTON, ME 04982	(207) 246-4401	S-020187-WH- A-E
CORINNA	MID MAINE SOLID WASTE ASSOC	PO BOX 68, DEXTER, ME 04930	(207) 924-3650	S-020048-WH- B-R
CORINTH	CENTRAL PENOBSCOT SOLID WASTE	PO BOX 309, EAST CORINTH, ME 04427	(207) 285-3271	S-021066-WH- A-E
CORNVILLE	CORNVILLE, TOWN OF	761 BECKWITH ROAD, CORNVILLE, ME 04976	(207) 474-5973	S-021024-WH- A-P
CRANBERRY ISLES	CRANBERRY ISLES, TOWN OF	PO BOX 56, ISLESFORD, ME 04646	(207) 244-4475	S-022216-WH- C-E
CRANBERRY ISLES	CRANBERRY ISLES, TOWN OF	PO BOX 56, ISLESFORD, ME 04646	(207) 224-4475	S-022280-WH- A-E
CUMBERLAND	CHEBEAGUE ISLAND, TOWN OF	192 NORTH RD, CHEBEAGUE ISLAND, ME 04017	(207) 846-3148	S-018430-WH- B-N
DANFORTH	DANFORTH, TOWN OF	PO BOX 117, DANFORTH, ME 04424	(207) 448-2321	S-021490-WH- A-E
DAYTON	DAYTON, TOWN OF	33 CLARKS MILLS RD, DAYTON, ME 04005	(207) 499-7526	S-021042-WH- B-E
DEER ISLE	DEER ISLE, TOWN OF	PO BOX 627, DEER ISLE, ME 04627	(207) 348-2324	S-021197-WH- B-E
DENMARK	DENMARK, TOWN OF	62 EAST MAIN STREET, DENMARK, ME 04022		S-015328-WH- A-N
DIXMONT	DIXMONT, TOWN OF	PO BOX 100, DIXMONT, ME 04932	(207) 234-2043	S-021014-WH- A-E
DOVER-FOXCROFT	DOVER-FOXCROFT, TOWN OF	48 MORTON AVE SUITE A, DOVER-FOXCROFT, ME 04426	(207) 564-3318	S-014714-WH- C-R
DRESDEN	DRESDEN, TOWN OF	PO BOX 30, DRESDEN, ME 04342	(207) 737-4335	S-021107-WH- A-E
DYER BROOK	NORTH KATAHDIN VALLEY SW COMM	146 DYER BROOK RD, DYER BROOK, ME 04747	(207) 528-2215	S-021075-WH- A-N
EAGLE LAKE	NORTHERN AROOSTOOK SOLID WASTE ASSO	P.O. BOX 218, EAGLE LAKE, ME 04739	(207) 444-5125	S-021191-WH- A-E
EAST MILLINOCKET	EAST MILLINOCKET, TOWN OF	53 MAIN STREET, EAST MILLINOCKET, ME 04430	(207) 746-3376	S-021058-WH- B-E
ELIOT	ELIOT, TOWN OF	1333 STATE ROAD, ELIOT, ME 03903	(207) 439-1813	S-007166-WH- A-R
ELIOT	D & L REAL ESTATE HOLDINGS, LLC.	PO BOX 363, ELIOT, ME 03903	(207) 439-5585	S-022279-WH- A-N
ELLSWORTH	ELLSWORTH, CITY OF	1 CITY HALL PLAZA SUITE 1, ELLSWORTH, ME 04605	(207) 667-2563	S-015209-WH- D-R
ELLSWORTH	DM & J WASTE MANAGEMENT INC	219 STREAM RD, WINTERPORT, ME 04496	(207) 223-4112	S-022319-WH- B-N
ENFIELD	ENFIELD, TOWN OF	789 HAMMETT RD, WEST ENFIELD, ME 04493	(207) 732-4270	S-020975-WH- B-E
ENFIELD	KING BROTHERS LAND ENTERPRISE INC	PO BOX 458, WEST ENFIELD, ME 04493	(207) 732-3641	S-021694-WH- A-E
FALMOUTH	FALMOUTH, TOWN OF	101 WOODS RD, FALMOUTH, ME 04105	(207) 781-5253	S-015524-WH- B-R
FARMINGTON	FARMINGTON, TOWN OF	153 FARMINGTON FALLS RD, FARMINGTON, ME 04938	(207) 778-6538	S-021479-WH- A-N
FRANKLIN	FRANKLIN, TOWN OF	PO BOX 206, FRANKLIN, ME 04634	(207) 565-3663	S-021609-WH- A-N

Location	Licensee	Address	Telephone	DEP Number
FREEPORT	BUSTINS ISLAND VILLAGE CORP	PO BOX 22, SOUTH FREEPORT, ME 04078	(207) 448-3328	S-003126-WH- A-E
FREEPORT	FREEPORT, TOWN OF	30 MAIN STREET, FREEPORT, ME 04032	(207) 865-4743	S-021886-WH- B-N
FRENCHVILLE	VRF	72 AIRPORT AVE., FRENCHVILLE, ME 04745	(207) 543-7301	S-021437-WH- A-N
FRYEBURG	FRYEBURG, TOWN OF	16 LOVEWELL POND RD, FRYEBURG, ME 04037	(207) 935-2805	S-021114-WH- A-E
GARLAND	GARLAND, TOWN OF	P.O. BOX 36, GARLAND, ME 04939	(207) 924-6615	S-021012-WH- B-E
GEORGETOWN	GEORGETOWN, TOWN OF	PO BOX 436, GEORGETOWN, ME 04548	(207) 371-2820	S-020740-WH- A-E
GILEAD	GILEAD, TOWN OF	8 DEPOT ST, GILEAD, ME 04217	(207) 836-2115	S-021088-WH- B-E
GORHAM	GORHAM, TOWN OF	75 SOUTH STREET SUITE 1, GORHAM, ME 04038	(207) 839-5041	S-007424-WH- A-R
GOULDSBORO	GOULDSBORO, TOWN OF	PO BOX 68, PROSPECT HARBOR, ME 04469	(207) 963-5589	S-021912-WH- C-E
GOULDSBORO	A.R WHITTEN & SONS, INC	PO BOX 460, WINTER HARBOR, ME 04693	(207) 963-5823	S-022208-WH- A-E
GRAND ISLE	GRAND ISLE, TOWN OF	PO BOX 197, GRAND ISLE, ME 04746	(207) 895-3420	S-021228-WH- A-E
GRAY	GRAY, TOWN OF	24 MAIN ST, GRAY, ME 04039	(207) 657-3339	S-015344-WH- D-R
GREENE	GREENE, TOWN OF	PO BOX 510, GREENE, ME 04236	(207) 946-5146	S-020766-WH- A-E
GREENVILLE	GREENVILLE, TOWN OF	PO BOX 1109, GREENVILLE, ME 04441	(207) 695-2421	S-022375-WH- A-N
GREENWOOD	GREENWOOD, TOWN OF	593 GORE RD, GREENWOOD, ME 04255	(207) 875-2773	S-010443-WH- B-R
HAMPDEN	HAMPDEN, TOWN OF	106 WESTERN AVENUE, HAMPDEN, ME 04444	(207) 862-3034	S-010247-WH- C-R
HAMPDEN	PINE TREE LANDFILL	358 EMERSON MILL RD, HAMPDEN, ME 04444	(207) 862-4200	S-021816-WH- A-N
HANCOCK	HANCOCK, TOWN OF	PO BOX 68, HANCOCK, ME 04640	(207) 422-3393	S-021038-WH- A-E
HARMONY	HARMONY, TOWN OF	P.O. BOX 14, HARMONY, ME 04942	(207) 683-6031	S-021389-WH- A-E
HARPSWELL	HARPSWELL, TOWN OF	PO BOX 39, HARPSWELL, ME 04079	(207) 833-5571	S-021202-WH- A-N
HARRISON	HARRISON, TOWN OF	PO BOX 300, HARRISON, ME 04040	(207) 583-2241	S-015532-WH- C-R
HARTLAND	HARTLAND, TOWN OF	P.O. BOX 280, HARTLAND, ME 04943	(207) 938-4401	S-005196-WH- F-E
HEBRON	HEBRON, TOWN OF	PO BOX 304, HEBRON, ME 04238	(207) 966-2912	S-021365-WH- A-N
HERMON	HERMON, TOWN OF	PO BOX 6300, BANGOR, ME 04401	(207) 848-3485	S-009165-WH- A-R
HIRAM	BALDWIN/HIRAM/PORTER, TOWNS OF	208 SOUTH HIRAM RD, HIRAM, ME 04041	(207) 625-4663	S-020006-WH- B-R
HOULTON	PINE TREE WASTE HOULTON	2828 BENNOCH RD, OLD TOWN, ME 04468	(207) 532-6383	S-021413-WH- A-N
HOWLAND	M. O. HARRIS, INC.	310 N HOWLAND RD, HOWLAND, ME 04448	(207) 732-5000	S-021309-WH- A-E
HOWLAND	HOWLAND, TOWN OF	P.O. BOX 386, HOWLAND, ME 04448	(207) 732-3513	S-022467-WH- C-E
HUDSON	HUDSON, TOWN OF	2150 HUDSON RD, HUDSON, ME 04449	(207) 327-1284	S-021414-WH- A-E
ISLESBORO	ISLESBORO, TOWN OF	PO BOX 76, ISLESBORO, ME 04848	(207) 734-2253	S-021274-WH- A-E
JACKMAN	JACKMAN, TOWN OF	PO BOX 269, JACKMAN, ME 04945	(207) 668-2111	S-021357-WH- A-E
JACKSON	JACKSON, TOWN OF	PO BOX 393, JACKSON, ME 04921	(207) 722-3439	S-022157-WH- A-N
JAY	JAY, TOWN OF	340 MAIN ST, JAY, ME 04239	(207) 897-6785	S-020323-WH- A-N
KENNEBUNK	KENNEBUNK, TOWN OF	1 SUMMER STREET, KENNEBUNK, ME 04043	(207) 985-2102	S-021473-WH- A-N
KINGFIELD	KINGFIELD, TOWN OF	38 SCHOOL ST, KINGFIELD, ME 04947	(207) 265-4637	S-020854-WH- A-E
KITTERY	KITTERY, TOWN OF	200 ROGERS RD, KITTERY, ME 03904		S-006636-WH- A-R

Location	Licensee	Address	Telephone	DEP Number
LAKEVILLE	LAKEVILLE, TOWN OF	PO BOX 63, SPRINGFIELD, ME 04487	(207) 738-5047	S-022097-WH- A-E
LAMOINE	LAMOINE, TOWN OF	606 DOUGLAS HWY, LAMOINE, ME 04605	(207) 667-2242	S-020936-WH- A-N
LEBANON	LEBANON, TOWN OF	15 UPPER GUINEA RD, LEBANON, ME 04027	(207) 608-6862	S-011309-WH- D-R
LEE	LEE, TOWN OF	29 WINN RD, LEE, ME 04455	(207) 738-2314	S-021509-WH- A-N
LEEDS	LEEDS, TOWN OF	PO BOX 206, LEEDS, ME 04263	(207) 524-5171	S-020968-WH- A-E
LILY BAY TWP	PISCATAQUIS COUNTY COMMISSIONER	163 EAST MAIN ST, DOVER-FOXCROFT, ME 04426	(207) 564-2161	S-021136-WH- A-E
LIMERICK	LIMERICK, TOWN OF	55 WASHINGTON STREET, LIMERICK, ME 04048	(207) 793-2166	S-022019-WH- A-E
LIMERICK	CIA SALVAGE INC	366 SOKOKIS TRAIL NORTH, LIMERICK, ME 04048	(207) 793-8193	S-022333-WH- B-N
LIMINGTON	LIMINGTON, TOWN OF	PO BOX 240, LIMINGTON, ME 04049	(207) 637-2171	S-005248-WH- B-E
LINCOLN	LINCOLN, TOWN OF	63 MAIN STREET, LINCOLN, ME 04457	(207) 794-3372	S-007004-WH- A-R
LINCOLN PLT	LINCOLN PLANTATION	226 WILSONS MILLS RD, ERROL, NH 03579	(207) 486-7791	S-020636-WH- A-E
LISBON	LISBON, TOWN OF	300 LISBON ST, LISBON FALLS, ME 04252	(207) 252-8142	S-008653-WH- A-R
LITCHFIELD	LITCHFIELD, TOWN OF	2400 HALLOWELL RD, LITCHFIELD, ME 04350	(207) 268-4721	S-020941-WH- A-E
LITTLETON	LITTLETON, TOWN OF	1536 US HIGHWAY 1, LITTLETON, ME 04730	(207) 538-9862	S-021329-WH- A-E
LIVERMORE	LIVERMORE, TOWN OF	10 CRASH ROAD, LIVERMORE, ME 04253	(207) 897-3207	S-020914-WH- A-E
LIVERMORE FALLS	LIVERMORE FALLS, TOWN OF	2 MAIN ST, LIVERMORE FALLS, ME 04254	(207) 897-3321	S-021253-WH- A-E
LONG ISLAND	LONG ISLAND, TOWN OF	P.O. BOX 263, LONG ISLAND, ME 04050	(207) 766-5820	S-021419-WH- A-N
LOVELL	LOVELL, TOWN OF	PO BOX 236, CENTER LOVELL, ME 04016	(207) 925-6272	S-006167-WH- A-R
LYMAN	LYMAN, TOWN OF	1 SOUTH WATERBORO ROAD, LYMAN, ME 04005	(207) 499-2925	S-007173-WH- A-E
MACHIAS	MACHIAS, TOWN OF	PO BOX 418, MACHIAS, ME 04654	(207) 255-6621	S-021194-WH- B-N
MAGALLOWAY PLT	MAGALLOWAY PLANTATION	PO BOX 228, ERROL, NH 03579	(207) 486-3264	S-020651-WH- A-E
MAPLETON	PRESQUE ISLE, CITY OF	12 SECOND ST ATTN: LISA, PRESQUE ISLE, ME 04769		S-006709-WH-ZZ-N
MARIAVILLE	MARIAVILLE, TOWN OF	1686 MARIAVILLE RD, MARIAVILLE, ME 04605	(207) 537-2107	S-013685-WH- C-R
MARION TWP	WASHINGTON CO COMMISSIONERS AKA MAR	145 NEWBURY ST, PORTLAND, ME 04101	(800) 345-9315	S-020800-WH- B-N
MARS HILL	MARS HILL, TOWN OF	15 WEST RIDGE RD, MARS HILL, ME 04758	(207) 425-3731	S-021192-WH- A-E
MATTAWAMKEAG	MATTAWAMKEAG, TOWN OF	P.O. BOX 260, MATTAWAMKEAG, ME 04459	(207) 736-2464	S-021187-WH- A-E
MECHANIC FALLS	MECHANIC FALLS, TOWN OF	108 LEWISTON ST, MECHANIC FALLS, ME 04256	(207) 345-2871	S-020267-WH- A-E
MEDWAY	MEDWAY, TOWN OF	4 SCHOOL ST, MEDWAY, ME 04460	(207) 746-9531	S-004125-WH- A-R
MERCER	MERCER, TOWN OF	1015 BEECH HILL RD #A, MERCER, ME 04957	(207) 587-2911	S-020974-WH- A-E
MEXICO	N OXFORD REGIONAL SOLID WASTE	145 CONGRESS ST, RUMFORD, ME 04276	(207) 364-4576	S-006461-WH- A-R
MILFORD	MILFORD, TOWN OF	P.O. BOX 336, MILFORD, ME 04461	(207) 827-2072	S-021111-WH- A-E
MILLINOCKET	MILLINOCKET, TOWN OF	197 PENOBSCOT AVENUE, MILLINOCKET, ME 04462	(207) 723-7037	S-021080-WH- A-R
MILO	PENQUIS SOLID WASTE CORP	586 MAIN RD, BROWNVILLE, ME 04414	(207) 943-2006	S-021637-WH- B-E
MONMOUTH	MONMOUTH, TOWN OF	PO BOX 270, MONMOUTH, ME 04259	(207) 933-2206	S-008350-WH- A-R
MONROE	MONROE, TOWN OF	8 SWAN LAKE AVE, MONROE, ME 04951	(207) 525-3515	S-020642-WH- A-E
MONSON	MONSON, TOWN OF	P.O. BOX 308, MONSON, ME 04464	(207) 997-3641	S-021011-WH- B-E

Location	Licensee	Address	Telephone	DEP Number
MONTICELLO	MONTICELLO, TOWN OF	PO BOX 99, MONTICELLO, ME 04760	(207) 538-9500	S-021330-WH- A-E
MONTVILLE	MONTVILLE, TOWN OF	414 CENTER RD, MONTVILLE, ME 04941	(207) 342-5544	S-021286-WH- A-E
MOOSEHEAD JUNCTION TWP	MIKE THERIAULT CONSTRUCTION, LLC	P.O. BOX 731, GREENVILLE, ME 04441	(207) 280-2946	S-022446-WH- A-E
MOUNT VERNON	MOUNT VERNON, TOWN OF	RR 1 BOX 3340, MOUNT VERNON, ME 04352	(207) 293-2636	S-020795-WH- A-E
NEW GLOUCESTER	NEW GLOUCESTER, TOWN OF	385 INTERVALE RD, NEW GLOUCESTER, ME 04260	(207) 926-4126	S-003773-WH- A-R
NEW VINEYARD	NEW VINEYARD, TOWN OF	PO BOX 262, NEW VINEYARD, ME 04938	(207) 652-2222	S-021407-WH- A-E
NEWFIELD	NEWFIELD, TOWN OF	637 WATER ST., WEST NEWFIELD, ME 04095	(207) 793-4348	S-015051-WH- B-R
NEWPORT	NEWPORT, TOWN OF	23 WATER STREET, NEWPORT, ME 04953	(207) 368-4410	S-008799-WH- A-R
NOBLEBORO	NOBLEBORO, JEFFERSON, TOWNS OF	192 US HIGHWAY 1, NOBLEBORO, ME 04555	(207) 563-8816	S-011168-WH- B-R
NORRIDGEWOCK	WASTE MGT DISP SERV OF ME INC	P.O. BOX 6700, LCLARK12@WM.COM, PORTLAND, OR 9722	(207) 582-5633	S-010735-WH-ES-N
NORRIDGEWOCK	WASTE MGT DISP SERV OF ME INC	P.O. BOX 6700, LCLARK12@WM.COM, PORTLAND, OR 9722	(207) 634-2714	S-010735-WH-HA-R
NORTH BERWICK	NORTH BERWICK, TOWN OF	P.O. BOX 422, MAIN STREET, NORTH BERWICK, ME 03906	(207) 676-3353	S-007105-WH- A-R
NORTH HAVEN	NORTH HAVEN, TOWN OF	PO BOX 400, NORTH HAVEN, ME 04853	(207) 867-4433	S-021885-WH- A-P
NORTHPORT	NORTHPORT, TOWN OF	16 BEECH HILL RD, NORTHPORT, ME 04849	(207) 338-3819	S-021269-WH- A-E
NORWAY	NORWAY PARIS SOLID WASTE	39 BROWN ST, NORWAY, ME 04268		S-008490-WH- A-R
OAKFIELD	OAKFIELD, TOWN OF	P.O. BOX 10, OAKFIELD, ME 04763	(207) 757-8479	S-021119-WH- A-E
OAKLAND	OAKLAND, TOWN OF	P.O. BOX 187, OAKLAND, ME 04963	(207) 465-7357	S-020930-WH- A-N
OGUNQUIT	OGUNQUIT, TOWN OF	PO BOX 875, OGUNQUIT, ME 03907	(207) 646-5139	S-022237-WH- A-N
OLD ORCHARD BEACH	OLD ORCHARD BEACH, TOWN OF	1 PORTLAND AVE, OLD ORCHARD BEACH, ME 04064	(207) 934-5714	S-008464-WH- C-R
OLD ORCHARD BEACH	BBI WASTE INDUSTRIES INC	PO BOX 510, OLD ORCHARD BEACH, ME 04064	(207) 229-3098	S-022095-WH- A-N
OLD TOWN	OLD TOWN, CITY OF	265 MAIN ST, OLD TOWN, ME 04468		S-020004-WH- A-N
ORIENT	ORIENT, TOWN OF	82 SCHOOL HOUSE RD, ORIENT, ME 04471	(207) 448-7729	S-021517-WH- A-E
ORLAND	ORLAND, TOWN OF	PO BOX 67, ORLAND, ME 04472	(207) 469-3186	S-022496-WH- A-N
ORNEVILLE TWP	PISCATAQUIS COUNTY COMMISSIONER	163 E MAIN ST, DOVER-FOXCROFT, ME 04426	(207) 564-2161	S-021008-WH- C-N
OTIS	OTIS, TOWN OF	132 OTIS RD, OTIS, ME 04605	(207) 537-2211	S-020756-WH- B-E
OTISFIELD	OTISFIELD, TOWN OF	403 STATE ROUTE 121, OTISFIELD, ME 04270	(207) 539-2664	S-021342-WH- A-E
OWLS HEAD	OWLS HEAD, TOWN OF	224 ASH POINT DRIVE, OWLS HEAD, ME 04854	(207) 594-7434	S-021546-WH- A-E
OXFORD	OXFORD, TOWN OF	PO BOX 153, OXFORD, ME 04270		S-009000-WH- A-R
PARKMAN	PARKMAN, TOWN OF	771 STATE HWY 150, GUILFORD, ME 04443	(207) 876-3730	S-021176-WH- A-E
PHILLIPS	PHILLIPS, TOWN OF	15 RUSSELL ST, PHILLIPS, ME 04966	(207) 639-3561	S-010918-WH- B-R
PHIPPSBURG	PHIPPSBURG, TOWN OF	1042 MAIN RD, PHIPPSBURG, ME 04562	(207) 389-2653	S-020725-WH- A-E
PITTSFIELD	PITTSFIELD, TOWN OF	112 SOMERSET AVE, PITTSFIELD, ME 04967	(207) 487-3136	S-008282-WH- C-R
PLEASANT RIDGE PLT	PLEASANT RIDGE PLANTATION	343 ROWE POND RD, PLEASANT RIDGE PLT, ME 04920	(207) 672-3952	S-021929-WH- B-E
POLAND	POLAND, TOWN OF	1231 MAIN ST, POLAND, ME 04274	(207) 998-4601	S-006783-WH- B-R
PORTAGE LAKE	PORTAGE, TOWN OF	PO BOX 255, PORTAGE LAKE, ME 04768	(207) 435-4361	S-021474-WH- A-E
PORTAGE LAKE	PORTAGE CONSTRUCTION INC	PO BOX 79, PORTAGE, ME 04768	(207) 435-6820	S-022096-WH- A-E

Location	Licensee	Address	Telephone	DEP Number
PORTLAND	PORTLAND, CITY OF	55 PORTLAND ST, PORTLAND, ME 04101	(207) 874-8637	S-021417-WH- A-N
PORTLAND	PORTLAND, CITY OF	55 PORTLAND ST, PORTLAND, ME 04101	(207) 756-8288	S-021417-WH- D-P
PORTLAND	WASTE MANAGEMENT OF MAINE INC	2000 FOREST AVE, PORTLAND, ME 04103	(207) 797-2406	S-021848-WH- A-N
PORTLAND	PORTLAND, CITY OF	55 PORTLAND STREET, PORTLAND, ME 04101	(207) 874-8467	S-022440-WH- A-E
PRESQUE ISLE	PRESQUE ISLE, CITY OF	12 2ND ST, PRESQUE ISLE, ME 04769	(207) 764-4485	S-021836-WH- A-N
PRINCETON	PRINCETON, TOWN OF	PO BOX 408, PRINCETON, ME 04668	(207) 796-2744	S-021185-WH- A-E
RANGELEY	RANGELEY, TOWN OF	PO BOX 1070, RANGELEY, ME 04970	(207) 864-3326	S-015668-WH- C-R
RANGELEY PLT	RANGELEY PLANTATION	BOX 308, RANGELEY, ME 04970	(207) 864-3472	S-020928-WH- B-E
RAYMOND	FRYE ISLAND, TOWN OF	1 SUNSET RD, FRYE ISLAND, ME 04071	(207) 655-4551	S-022273-WH- A-E
READFIELD	READFIELD, TOWN OF	8 OLD KENTS HILL RD, READFIELD, ME 04355	(207) 685-4939	S-020840-WH- A-E
RICHMOND	RICHMOND, TOWN OF	26 GARDINER ST. #1, RICHMOND, ME 04357	(207) 737-4305	S-020495-WH- A-E
ROCKLAND	ROCKLAND, CITY OF	270 PLEASANT STREET, ROCKLAND, ME 04841	(207) 594-8431	S-014566-WH- D-R
ROCKPORT	MID COAST SOLID WASTE	PO BOX 1016, ROCKPORT, ME 04856	(207) 236-4163	S-007829-WH- A-R
SABATTUS	SABATTUS, TOWN OF	190 MIDDLE RD, SABATTUS, ME 04280	(207) 701-1993	S-020961-WH- B-E
SACO	SACO, CITY OF	300 MAIN ST, SACO, ME 04072	(207) 282-3487	S-020720-WH- A-N
SANDY RIVER PLT	INHABITANTS/SANDY RIVER PLT	33 TOWNHALL RD, SANDY RIVER PLT, ME 04970	(207) 864-2234	S-021492-WH- A-E
SANFORD	SANFORD, TOWN OF	156 SCHOOL ST ATTN PUBLIC WORK, SANFORD, ME 04073	(207) 324-9135	S-005420-WH- B-N
SCARBOROUGH	COMMERCIAL PAVING & RECYCLING CORP	70 PLEASANT HILL RD, SCARBOROUGH, ME 04074	(207) 883-3325	S-021243-WH- A-E
SEARSMONT	SEARSMONT, TOWN OF	P.O. BOX 56, SEARSMONT, ME 04973	(207) 342-5411	S-020954-WH- A-E
SEARSPORT	SEARSPORT, TOWN OF	PO BOX 499, SEARSPORT, ME 04974	(207) 548-6372	S-021587-WH- A-E
SEBAGO	SEBAGO, TOWN OF	406 BRIDGTON RD, SEBAGO, ME 04029	(207) 787-2457	S-020718-WH- A-N
SHAPLEIGH	SHAPLEIGH, TOWN OF	P.O. BOX 26, SHAPLEIGH, ME 04076	(207) 636-2843	S-014660-WH- D-R
SHERMAN	SHERMAN, TOWN OF	36 SCHOOL ST SUITE 1, SHERMAN, ME 04776	(207) 365-4260	S-021013-WH- A-E
SIDNEY	SIDNEY, TOWN OF	2986 MIDDLE RD, SIDNEY, ME 04330	(207) 547-3340	S-021116-WH- A-E
SKOWHEGAN	SD WARREN CO	RR 3 BOX 1600, SKOWHEGAN, ME 04976	(207) 238-3361	S-020884-WH- A-N
SKOWHEGAN	SKOWHEGAN, TOWN OF	225 WATER ST, SKOWHEGAN, ME 04976	(207) 474-6900	S-021521-WH- A-N
SMYRNA	CONDON, DAVID	92 TIMONEY LAKE RD, SMYRNA MILLS, ME 04780	(207) 767-8694	S-021695-WH- A-N
SOLON	SOLON, TOWN OF	PO BOX 214, SOLON, ME 04979	(207) 643-2541	S-020736-WH- B-E
SOUTH BERWICK	SOUTH BERWICK, TOWN OF	180 MAIN ST, SOUTH BERWICK, ME 03908		S-006475-WH- A-R
SOUTH PORTLAND	FILMIKE, LLC	PO BOX 3541, PORTLAND, ME 04104	(207) 767-2070	S-021965-WH- A-N
SOUTH PORTLAND	SOUTH PORTLAND, CITY OF	929 HIGHLAND AVE., SOUTH PORTLAND, ME 04106	(207) 767-7650	S-022448-WH- A-N
SOUTH THOMASTON	SOUTH THOMASTON, TOWN OF	PO BOX 147, SOUTH THOMASTON, ME 04858	(207) 596-6584	S-021041-WH- A-E
SOUTHWEST HARBOR	EMR INC	P.O. BOX 787, SOUTHWEST HARBOR, ME 04679	(207) 244-9033	S-010957-WH- C-R
SPRINGFIELD	SPRINGFIELD, TOWN OF	PO BOX 13, SPRINGFIELD, ME 04487	(207) 738-2176	S-021017-WH- B-E
ST FRANCIS	UPPER ST JOHN TRANSFER STATION	873 MAIN ST, SAINT FRANCIS, ME 04774	(207) 398-3175	S-021118-WH- A-E
ST GEORGE	SAINT GEORGE, TOWN OF	PO BOX 131, TENANTS HARBOR, ME 04860		S-008888-WH- C-E

Location	Licensee	Address	Telephone	DEP Number
STANDISH	STANDISH, TOWN OF	175 NORTHEAST RD, STANDISH, ME 04084	(207) 642-3461	S-020486-WH- A-N
STONINGTON	STONINGTON, TOWN OF	PO BOX 9, STONINGTON, ME 04681	(207) 367-2351	S-020154-WH- A-N
SULLIVAN	SULLIVAN, TOWN OF	1888 US HWY 1, SULLIVAN, ME 04664	(207) 422-6282	S-020995-WH- B-E
SWANS ISLAND	SWANS ISLAND, TOWN OF	MUNICIPAL OFFICE, SWANS ISLAND, ME 04685	(207) 526-4279	S-021386-WH- A-E
SWANVILLE	SWANVILLE, TOWN OF	6 TOWN HOUSE RD, SWANVILLE, ME 04915	(207) 338-5834	S-020892-WH- A-E
T17 R04 WELS	AROOSTOOK COUNTY COMMISSIONERS	240 SWEDEN ST SUITE 1, CARIBOU, ME 04736	(207) 493-3318	S-020868-WH- A-E
T3 INDIAN PURCHASE TWP	INDIAN TWP TRIBAL GOVERNMENT	P.O. BOX 301, PRINCETON, ME 04668	(207) 796-2301	S-021377-WH- A-N
TAUNTON &RAYNHAM ACADEMY	SOMERSET COUNTY COMMISSIONERS	41 COURT ST, SKOWHEGAN, ME 04976	(207) 474-9861	S-021371-WH- A-E
THOMASTON	OWLS HEAD, SO THOMASTON, THOMASTON S	PO BOX 367, THOMASTON, ME 04861	(207) 354-8830	S-007887-WH- A-R
THOMASTON	THOMASTON, TOWN OF	PO BOX 299, THOMASTON, ME 04861	(207) 354-6107	S-021060-WH- A-E
TOPSHAM	TOPSHAM, TOWN OF	100 MAIN ST, TOPSHAM, ME 04086	(207) 725-5821	S-020929-WH- A-N
TURNER	TURNER, TOWN OF	11 TURNER CENTER RD, TURNER, ME 04282	(207) 225-3414	S-021216-WH- B-N
UNION	TRI-COUNTY SOLID WASTE MGT ORG	P O BOX 96, UNION, ME 04862	(207) 342-5770	S-020880-WH- A-N
UPTON	UPTON, TOWN OF	270 THISTLE ST, UPTON, ME 04261	(207) 533-2131	S-021453-WH- C-N
VAN BUREN	VAN BUREN, TOWN OF	51 MAIN ST SUITE 101, VAN BUREN, ME 04785	(207) 868-2886	S-021596-WH- A-E
VANCEBORO	VANCEBORO, TOWN OF	PO BOX 24, VANCEBORO, ME 04491		S-021288-WH- B-E
VASSALBORO	VASSALBORO, TOWN OF	PO BOX 129, NORTH VASSALBORO, ME 04962	(207) 873-6217	S-015070-WH- B-R
WALDOBORO	WALDOBORO, TOWN OF	P.O. BOX J, WALDOBORO, ME 04572	(207) 832-5369	S-013067-WH- H-R
WARREN	WARREN, TOWN OF	167 WESTERN ROAD, WARREN, ME 04864	(207) 273-2421	S-021016-WH- A-E
WATERBORO	WATERBORO, TOWN OF	24 TOWNHOUSE RD, EAST WATERBORO, ME 04030	(207) 247-6166	S-007562-WH- A-R
WATERVILLE	PINE TREE WASTE AKA SAWYER ENVIRONME	1 FREEDOM PARK, BANGOR, ME 04401	(207) 862-4200	S-021993-WH- A-N
WELD	WELD, TOWN OF	PO BOX 87, WELD, ME 04285	(207) 585-2348	S-020994-WH- B-E
WELLS	WELLS, TOWN OF	208 SANFORD RD, WELLS, ME 04090	(207) 646-5113	S-009135-WH- B-R
WEST BATH	WEST BATH, TOWN OF	FOSTER'S POINT ROAD, WEST BATH, ME 04530	(207) 443-4342	S-020635-WH- A-E
WEST GARDINER	WEST GARDINER, TOWN OF	318 SPEARS CORNER ROAD, WEST GARDINER, ME 04345	(207) 724-3945	S-010499-WH- C-R
WEST PARIS	WEST PARIS, TOWN OF	PO BOX 247, WEST PARIS, ME 04289	(207) 674-2701	S-021056-WH- B-N
WESTBROOK	PINE TREE WASTE INC	3 PITKIN COURT, MONTPELIER, VT 05602	(802) 223-7221	S-022074-WH- A-N
WESTON	WESTON, TOWN OF	5 CHURCH LANE, WESTON, ME 04424	(207) 448-2316	S-021527-WH- A-E
WILLIMANTIC	WILLIMANTIC, TOWN OF	PO BOX 152, GUILFORD, ME 04443	(207) 997-3628	S-020979-WH- A-E
WILTON	WILTON, TOWN OF	158 WELD RD, WILTON, ME 04294	(207) 645-4961	S-021353-WH- A-N
WINDSOR	WINDSOR, TOWN OF	PO BOX 179, WINDSOR, ME 04363	(207) 445-2998	S-020950-WH- A-E
WINN	WINN, TOWN OF	P.O. BOX 98, WINN, ME 04495	(207) 736-7111	S-020953-WH- B-E
WINTERPORT	WINTERPORT, TOWN OF	PO BOX 559, WINTERPORT, ME 04496	(207) 223-5055	S-020703-WH- D-N
WINTERPORT	DM & J WASTE MANAGEMENT INC	219 STEAM RD, WINTERPORT, ME 04496	(207) 223-4112	S-022348-WH- A-N
WINTHROP	WINTHROP, TOWN OF	17 HIGHLAND AVE, WINTHROP, ME 04364	(207) 377-2286	S-014184-WH- E-R
WISCASSET	WISCASSET, TOWN OF	51 BATH RD, WISCASSET, ME 04578	(207) 882-6331	S-020172-WH- A-N

Location	Licensee	Address	Telephone	DEP Number
YARMOUTH	YARMOUTH, TOWN OF	200 MAIN STREET, YARMOUTH, ME 04096	(207) 846-4971	S-015135-WH- C-R
YORK	YORK, TOWN OF	186 YORK ST, YORK, ME 03909	(207) 363-1010	S-003607-WH- C-E

Solid Waste Management in Maine: Past, Present and Future

Materials Management Research Group:

Travis Blackmer, George Criner, David Hart, Cynthia Isenhour

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Senator George J. Mitchell
Center for Sustainability Solutions

1865 THE UNIVERSITY OF MAINE

Executive Summary

The Senator George J. Mitchell Center for Sustainability Solutions at the University of Maine has organized an interdisciplinary team of researchers with a wide array of expertise related to solid waste. Together we seek to engage with stakeholders throughout the state to identify and alleviate information gaps, provide opportunities for dialogue and to participate in the process of designing and building support for sustainable solid waste (materials management) solutions in Maine. This paper draws upon the team's collective expertise in order to: 1) provide a brief overview of the history of solid waste in Maine; 2) outline contemporary challenges; and 3) to identify opportunities for the future. While many readers will likely have more complete knowledge of solid waste management in Maine, our hope is that this document can serve as a starting point, a place where stakeholders – citizens, municipal managers, legislators, regulators, landfill operators, waste-to-energy operators, haulers, recyclers, composters, and other vital partners – can provide feedback, help to clarify and assist in reviewing the current state of our system. Our goal is to utilize collective input to identify areas of strength and to create proposals to achieve more success in a sustainable materials management system.

We invite readers to review and comment on the full report. A summary of highlights include:

- Waste generation, management and disposal is an extremely complex issue, in part because it is intricately linked to a wide variety of economic, social and environmental issues affecting our state including public service provision, municipal and state budgets, private industry, ecological and human health, land use, and resident satisfaction with service, facility siting and operations.

- There have been vast improvements in waste management services and programs since World War II, but as a result solid waste issues have been removed from public consciousness and suffered a lack of public investment in and engagement with waste issues - except in times of crisis.

- The history of waste management in Maine can be characterized as a series of periodic crises. While we have made some significant advancement, the need to respond quickly has often pre-empted or precluded long term planning for more efficient and sustainable waste management systems.

- Well-designed materials management programs (solid waste processing and disposal, recycling, organics, source reduction, reuse, etc.), citizen conscientiousness, capital investments, and innovative institutions can all contribute to the achievement of the waste hierarchy and reducing the amount of waste generated and disposed of.

- Every day, over 5000 tons of municipal solid waste are generated, collected, and managed (reuse, recycled, composted, disposed) in Maine; involving a network of varying public and private operations and services.

- Today we find ourselves closer to another “crisis” as we need to expand existing and find new homes for our waste. Meanwhile pressure is mounting to send in more waste from other states that are imposing landfill bans that limit their options.

- The future of Waste-to-Energy in Maine is unclear with one facility closed (MERC) and one with an uncertain future (PERC). WTE facilities reduce waste volume, produce electricity, and are supported by the State’s waste hierarchy.

- All management strategies have trades offs – processes have different costs, environmental impacts, and lifetimes. How the state and public should evaluate these trade-offs is not clear.

- Landfill space is a precious resource due to limited acceptable sites and public resistance to landfills. Increased public engagement in waste issues, due to current debates about landfill capacity and continued reliance upon WTE facilities, presents a significant opportunity to proactively design and invest in more sustainable materials management system in our state.

- All communities are different and there are reasons to have some variability across the state. However, modern waste management technologies (recycling facilities, landfills, waste-to-energy plants) favor large facilities. To achieve reasonable per ton costs, more regionals solutions are likely favorable. Further, inclusive and integrated planning could reduce costs, ensure more equitable investment and improve the state economy.

- Maine can look within the state as well as to other states for programs, policies, and information that successfully diverted waste and captured valuable materials.

- Maine has taken a leadership role in waste management issues in the past and can draw upon our deep culture of “waste not” ingenuity once again to design an exemplary and sustainable system.

- Finding areas to improve on current solid waste management practices will require engaging the many groups of stakeholders and looking inside and outside the state for solutions.

I. Introduction: An Opportunity to Rethink "Waste"

Waste is a curious thing. We all generate it - paper, tissues, product packaging, demolition debris and carrot tops. Indeed, in today's consumer society many of our most basic necessities are wrapped, boxed or bagged. As our population has grown, so has the volume of waste produced. To accommodate this growth our disposal approach has changed from 'dilute and disperse' to 'concentrate and contain.' This system has clear sanitary and aesthetic advantages but it also has the negative effect of removing the compounding costs of waste and the complicated issues associated with its management from the public eye and consciousness.

We acknowledge that while citizens do not want landfills near their homes, as a general rule people are happy to go on living their daily routines and don't often prioritize public investment in waste management. Yet a growing number of citizens, waste managers and policy makers recognize that our contemporary systems allow valuable resources to be wasted and thus are not optimally efficient. In today's system, natural resources are harvested, cut, mined, manufactured, distributed, sold, consumed and wasted. Even goods with significant value come to the end of a one-way, linear system of production, consumption and waste. This problem is particularly pronounced in the US where approximately 5% of the global population consumes 25% of the world's resources (Figure 1) and sends many of those resources to landfills.

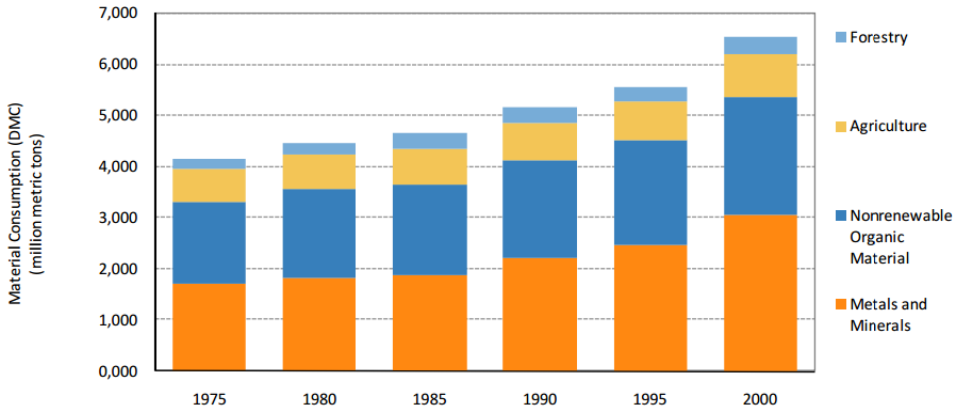

Figure 1: Materials Consumption in the US by Sector of Origin, 1975-2000 *Source: WRI Materials Flows Database 2005*

Our municipal governments are legally responsible for managing solid waste (M.R.S. Title 38 Chapter 13 §1305), but it is an expensive burden. Waste experts estimate that waste management expenditures in Maine typically rank between the third and fifth highest category on municipal budgets. Programs designed to reduce waste and capture a higher percentage of valuable resources before sending them to disposal could significantly supplement municipal budgets if alternatives can be utilized at lower costs than disposal. At the same time tight municipal budgets may translate into a strong local preference to allocate as little money as is possible to waste management. This cost aversion certainly makes sense and recent municipal surveys suggest that the overwhelming majority of municipalities are satisfied with their current waste management system and prefer not to allocate additional funding. But periodically crises arise that threaten the status quo (e.g. leaking or full landfills, expiring electrical sale rate agreements to waste-energy facilities; public resistance toward landfill expansion). Deferring decisions and investment may make economic sense in the short term, but less sense in the long term considering the implications of our current system for long-term environmental and public health, the inefficiency of wasting valuable resources and the costs that compound when long -term planning is neglected.

History repeats itself when it comes to the management of municipal solid waste (MSW), both in Maine and beyond. Most big changes to how we manage our waste have come when the status quo is no longer tenable, through progressive regulatory changes and groundswells of public reaction. For example, ocean dumping was once prevalent but was banned after debris began fouling the shore, and in some cases became a navigational hazard. Ocean dumping of sludge was also abandoned after studies showed that the sludge was negatively

altering our coastal ecosystems, one of Maine's greatest resources. At least with respect to MSW management in the US, change often proceeds as follows: 1) status quo; 2) one or more problems cannot be denied and citizens become engaged; 3) regulators create a deadline for change; 4) the deadline arrives and a crisis is declared; 5) there is a scramble for solutions but the short time frame means they are often incomplete; 6) a solution is put in place that works for the short term.

Today in Maine we're confronted with yet another moment in history when the symptoms of an unsustainable system have risen to a more prominent place in public consciousness. It is a moment when we must decide whether to continue to "manage waste" or to draw upon our strong history of environmental leadership, "waste-not" culture and unique version of entrepreneurialism to design solutions that eliminate waste, capitalize on valuable materials, and spur economic development. This is an opportunity for us all to educate and engage each other to create a more sustainable system.

II. A History of Waste Management in Maine

We begin with a brief history of waste management in Maine. The saying "history repeats itself" rings true in relation to solid waste. Indeed our history is characterized by a cycle of intermittent crises, partial solutions and periods of complacency.

After World War II, many municipalities began covering their open dumps with soil (daily cover). This practice put an end to the nuisance factor of town dumps (reduced fires, and animal issues such as seagulls and rats) (Daniel 1993). For decades there were several waste crises and concerns about garbage volume, water pollution and toxicity as environmental awareness increased. During the 1960s and 1970s various recycling programs were started including the first bottle deposit legislation in the US. During the 1980s, concern mounted over the continued use of unlined landfills in many municipalities. Due to changes in the composition of waste, landfills were becoming increasingly complex and toxic. Traditional dumps did not have engineering features to prevent groundwater contamination. In response, the US EPA enacted the Resource Conservation and Recovery Act in 1976. The Act set a deadline for the closure of inadequate and unsanitary landfills and put in place strict engineering requirements for all new facilities. While a significant step forward to prevent pollution and including a focus on source reduction and resource recovery, the act created a crisis of sorts at state and local levels as municipalities began searching for new homes for their MSW.

The resulting wave of activity in Maine included construction of sanitary landfills designed to meet EPA engineering requirements, the construction of several of waste-to-energy (WTE) facilities and the start of recycling programs. The Mid-Maine Waste Action Corporation (MMWAC) was formed in 1986 and completed refurbishing their facility in Auburn in 1992, the Maine Energy Recovery Company (MERC) built a WTE plant in Biddeford in 1987, ecomaine, originally Regional Waste Systems, built a WTE plant in Portland in 1988, and the Penobscot Energy Recovery Company (PERC) built one in Orrington of the same year. In 1989 Maine created the Maine Waste Management Agency and charged it with creating a solid waste management plan, assisting municipalities and businesses in waste reduction and recycling efforts, and developing criteria for the selection of new landfills. Perhaps most importantly, the state established a recycling goal of 50 percent, developed various assistance programs including an infrastructure grant program and educational efforts, and adopted a waste management hierarchy (38 MRSA §2101) which prioritized efforts to ensure waste reduction before recycling, waste-to-energy and landfilling (in that order).

In an effort to support the hierarchy, Maine emerged as a national leader in product stewardship programs and was among the first to implement stewardship requirements for mercury and batteries. The state also provided assistance to municipalities to improve recycling and materials recovery rates. Combined with waste to energy programs, these efforts contributed to reductions in waste production and landfilling rates. Disposal of waste to a landfill has decreased from 89 percent of total waste in 1980 to less than 54 percent of MSW in 2012. Solid waste generation per person per day peaked in 2000 in the US and the recycling rate has increased–from less than 10 percent of MSW generated in 1980 to over 34 percent in 2012 (Figures 2,3,4, & 5).

Today, most Maine communities do have more organized household collection with increases in the amount of curbside collection of waste and recycling, but recycling rates have stagnated and little additional progress has been made in meeting Maine's recycling goal of 50% (Figure 2). Indeed, Maine has struggled to find new ways to improve solid waste management practices since the mid-1990s and many argue that the waste hierarchy is not being adequately supported with policy or investment. Seeing slow progress towards the 50% recycling goal, stakeholders have increasingly questioned whether or not it is the right goal, or if significant changes must be made to overcome the barriers that are preventing its accomplishment. This is in contrast to national trends showing stabilized waste production rates per capita. This can be seen as a plateau of total waste generation along with increasing recycling rates at the national level (Figure 4, 5).

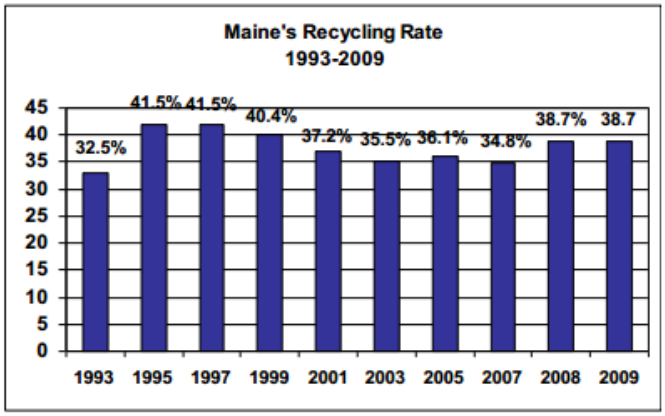

Figure 2: Maine's Recycling Rate 1993-2009

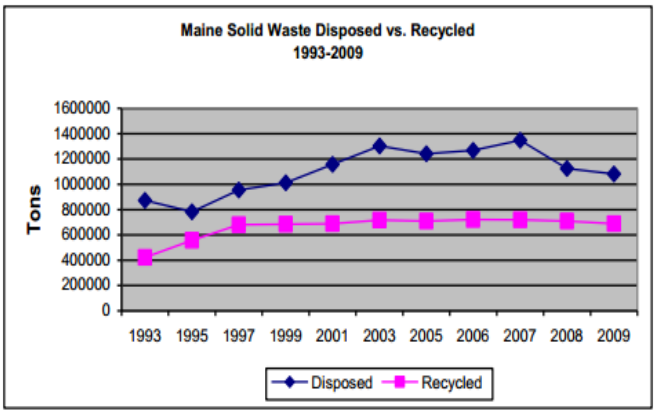

Figure 3: Maine's Solid Waste Disposed of VS. Recycling 1993-2009

Source: State Planning Office Solid Waste Generation & Disposal Capacity Report for Calendar Year 2009

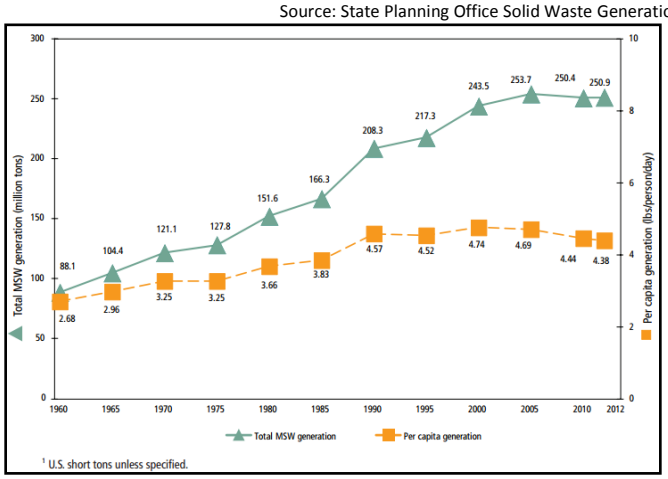

Figure 4: MSW generation rates, 1960 to 2012

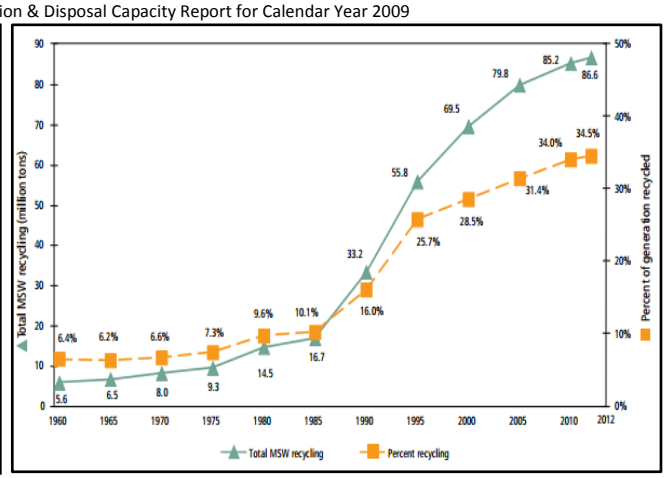

Figure 5 MSW Recycling Rate, 1960 to 2012

Source: USEPA Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2012

Complicating planning for the waste hierarchy at the state level, the two state agencies which have helped to set goals for solid waste management have both been eliminated. The Maine Waste Management Agency Act was repealed in 1995, and the State Planning Office closed in July of 2012. These changes in Maine's policy and departmental priorities have added considerable uncertainty to the direction of solid waste regulation and planning for the state. The Department of Environmental Protection is now tasked with Solid Waste data collection and reporting, but their role as regulators could impact their ability to direct solid waste planning for the state.

The current era may be coming to an end as history repeats itself and public interest in MSW policy is once again rising, due to an impending crisis and deadline. Maine Energy Recovery Company's (MERC) WTE facility in Biddeford closed at the end of 2012, taking with it more than one third of the state's waste WTE capacity. In 2018 the waste-to-energy plant, Penobscot Energy Recovery Company (PERC), will lose favorable electrical rates for the energy they produce. Together MERC and PERC represented 72% of the state's waste-to-energy capacity prior to 2012. If PERC were to close, a significant increase in landfilling may be necessary in the absence of

alternative technologies or aggressive waste reduction programs. Yet increased landfilling is inconsistent with Maine's waste hierarchy that places waste processing to reduce volume (i.e. WTE and potentially new technologies) at a higher priority level than landfilling.

One of the PERC owners is the Municipal Review Committee (MRC), a nonprofit organization composed of the 187 eastern Maine municipalities that generate much of the waste PERC receives. As part of the MRC effort to identify alternatives for disposal of their MSW post-2018, the organization proposed siting a new landfill at one of two sites in Argyle or Greenbush, Maine. While the State of Maine, through the Maine DEP, would deny both MRC landfill location requests, the proposals sparked significant public protest and brought waste management back into the public consciousness. Meanwhile other municipalities, struggling to find adequate room in their budgets to manage waste, find proposals to subsidize waste-to-energy unfair given that WTE may not be accessible to all municipalities.

The history of MSW management leads us to look at both the challenges and opportunities associated with our current system of waste management and the potentially historical moment in which we find ourselves.

III. Defining Challenges and Opportunities

Meeting the goals of Maine's waste hierarchy may be difficult without new technologies, renewed support for waste-to-energy, and significant declines in waste generation or policy to restructure landfill incentives. In this section we outline our understanding of the challenges associated with Maine's current MSW system, including our continued reliance on landfills.

Waste management and the economy

The state of Maine currently owns three landfill sites: Juniper Ridge in Old Town (operated by Casella); Dolby Landfill in East Millinocket; and undeveloped Carpenter Ridge in Lincoln. Maine also has five municipally-owned landfills (Hatch-Hill in Augusta, Bath, Brunswick, Presque Isle, and Tri-Community in Fort-Fairfield), two ash landfills for WTE residue (ecomaine's and Lewiston), one commercially owned and operated landfill (Crossroads in Norridgewock owned by Waste Management), and two larger waste remediation and Construction and Demolition Debris (CDD) disposal sites (Mid Coast Solid Waste in Rockport and Rockland). As of 2013, the remaining landfill capacity for MSW was 9.4 million cubic yards (Maine DEP 2015). That number could potentially increase if landfill expansion proposals expected in the summer of 2015 are approved and with the legislative rules regarding commercial landfills being changed. If approved and at current disposal rates, these expansions would increase the states capacity beyond 20 years, though some landfills would fill sooner. This time frame would be further compressed with the closure of PERC if no agreeable alternatives to direct landfilling are identified.

The siting of new landfills and the expansion of existing sites are difficult due, most obviously, to local opposition to perceived environmental and operational issues, but also to a host of other reasons including geography and economics. For example, large landfills benefit from economies of scale as large amounts of waste can offset the high costs associated with siting and development, construction and operations. It would be prohibitively expensive for all but Maine's largest municipalities to have individual landfills. But large landfills must be regional in order to obtain sufficient MSW. This is a problem for our largely rural state, however, since geography and infrastructure can make transportation cost-prohibitive for many municipalities if the landfills are far from population centers.

Another economic complication concerns contemporary incentives for landfill operators. To ensure adequate cash flow for operations, landfill operators may have an incentive to secure more volume and to fill at a rapid rate. When analyzing landfill closure timelines, such as with Mid-Coast Solid Waste and the City of Bath's landfill, the least-cost alternative found was to fill the landfill expediently and close it, but that would not be the appropriate option given the needs of the region they serve. These models were based on many social and economic assumptions. There are other factors such as the ability to have a controllable local landfill that isn't quantifiable. Landfills also settle over time as methane, carbon-dioxide, and water are released and allow for a

cubic yard of waste today to not occupy that same space in the future. In terms of general finance it is also known that a dollar today is worth more than future dollars. These factors increase the complexity of landfill planning and operation.

Waste to energy facilities are, as we all know, another option but these too can only exist if they can compete economically with other means of disposing of waste. Being tied to a volatile energy markets leads to a great deal of uncertainty. Materials recovery facilities have the same risks due to extreme fluctuations in the prices of materials. Corrugated cardboard, for example, reached prices of over $200 a ton in recent history, but has historically averaged closer to $70 a ton.

Recycling and capturing materials are important strategies for waste diversion; they also come with a price. Transporting two streams can be costly in rural areas where there are lower volumes. Composting facilities have perceptions of odor that make it difficult to gain community support. Larger facilities could be more cost efficient, but guaranteeing adequate materials inflow prior to construction would prove difficult. That type of price fluctuation makes planning difficult for facilities and brokers that sell recovered materials. There are also concerns about the distances materials (waste, recycling, and other) must travel. Many bailed recyclable materials end up in places far away, sometimes across the globe. The local transfer station or recycling center was a hub for the consolidation of materials, but with the number of communities that have curbside recycling and some form of single stream recycling increasing, the road miles of these collected materials has increased. Diversion technologies also require large capital investments that individual communities or regions often cannot afford by themselves. Private companies have an important role to play in this form of regionalization; allowing for coordination between communities and markets at lower costs.

Alternative incentive structures could potentially be created to address these economic challenges, but waste disposal also presents longer term ecological and public health risks.

Waste management and environmental health

Landfills have been a key part of the waste disposal system, but result in several long-term ecological challenges ranging from land allocation and potential engineering failures to leachate treatment and the production of greenhouse gasses. Policy makers have recognized the scarcity of suitable landfill sites, writing “The Legislature finds that environmentally suitable sites for waste disposal are in limited supply and represent a critical natural resource.” (M.R.S. Title 38 Chapter 13 §1302)

Ideal sites for landfills in Maine are limited given the state’s surficial geology and landscape. Some of the better locations, far away from vulnerable water resources, are also far away from population centers making transportation costs an issue of concern. Once landfills are approved, with today’s requirements that moisture and air be excluded, waste materials in a landfill slowly decay, producing gasses and leachate that may be released into our air and water. Air emissions from landfills primarily consist of Carbon dioxide (CO2), methane, malodorous compounds, and other organic compounds (US EPA 1995) which contribute to air quality problems. Impacts of landfill leachate include the pollution of ground and surface waters and the energy and chemicals associated with treating collected leachate.

These risks are present even for new landfills constructed to modern standards using best engineering practices. Landfills present legacy problems for the state and its citizenry. Already approximately 12% of the closed municipal landfills in Maine have been identified as environment risks as defined by the Maine DEP. Even modern engineered landfills must be monitored over the long-term to safeguard human health and the environment. The US EPA requires that the care period for Municipal Solid Waste Landfills for non-hazardous wastes be 30 years post-closure (US EPA 2014) but Dr. G. Fred Lee and associates, a landfill engineering and environmental consulting group, states that a 30 year post-closure period “has essentially no relationship to the period during which the wastes in the landfill will pose a threat to public health/welfare or environmental quality.” (Jones-Lee & Lee 2014).

Waste-to-energy also has environmental impacts. While many mechanisms and technologies have been put in place to ensure emissions meet regulated air quality levels and to detoxify ash, particularly since the Clean Air Act of 1970, there are still emissions. Many communities object to the odors associated with some WTE facilities and the extra layer of processing also requires significant transportation and ash disposal.

Challenges and Opportunities at (and in) the Home

Landfill and WTE operators provide an essential service for the benefit of a citizenry that produces significant waste (approximately 3 pounds per-person-per-day in Maine). While it is true that both absolute and per capita waste generation has declined in Maine over the last decade, it is also clear that even these reduced levels of waste generation will require new solutions (Maine DEP 2013). While the best solutions will include a mix of these elements and a strong systemic approach, research suggests that the most economic and resource efficient solutions (the low-hanging fruit, so to speak) are found not at the end of the lifecycle, but rather up the supply chain in design modifications or in consumer behavioral modifications (West Coast Forum on Materials Management).

A 2011 study by the University of Maine and State Planning Office (Criner & Blackmer 2011) found that 20% of baggable household waste (after recycling) gathered from 17 municipalities in Maine was recyclable, and more notably, that 40% was compostable. This raises significant questions about waste that might be avoided through the encouragement of changes in household behaviors (meal planning, re-evaluation of "best by" dates, food sharing, household composting etc.). The elimination of food waste and composting keeps valuable nutrients circulating and reduces waste tonnages and landfill-associated emissions. According to several studies, waste prevention and food waste composting offer the greatest potential for waste reduction (West Coast Forum 2014, Cox et al. 2010).

Information and (dis)incentives can often times be effective, but researchers have long noted a gap between environmental awareness, attitudes and behaviors (Thorgeson and Olander 2003). In order to increase household participation in waste reduction these practices must also be convenient (Mueller 2013, Wilk 2009). Municipalities have also recognized the need for convenience, leading to a vast increase in communities using curbside recycling and either single-stream or zero-sort™ for recycling. While single stream can have significant benefits, it can also increase the distances that materials are transported and can break down local community and regional efforts. The significant investment required for single stream materials recovery facilities mean that they are often centralized in urban centers.

Another alternative designed to reduce household waste is Pay-As-You-Throw (PAYT). These programs have also grown in popularity in recent years. In 2006, the EPA reported that there are over 7,000 communities in the US with PAYT (Skumatz 2006). PAYT programs may be perceived as controversial and often fought by citizens. The research on PAYT is mixed, with some reporting significant waste reduction near 50% (EPA 2010, individual municipalities; Brewer, Sanford). Other researchers finding that while there are substantial impacts, they are not only due to PAYT, but also are due to other important factors such as: demographics; available programs; current economic conditions; etc. (Blackmer & Criner 2014; Allers 2010, Ferrera 2005). Finally some studies suggest that reductions in waste from PAYT may be small and heavily undermined by illegal dumping, waste "shifting", "leakage" or "tourism" since those who wish to avoid paying also have an incentive to take their waste to other municipalities (Fullerton 1996).

While economic (dis)incentives like PAYT often shift behaviors in the short term, critics argue that they often fail to produce long term change if the incentive is removed. These findings suggest that while one-dimensional change models like awareness campaigns and financial incentives have enjoyed significant popularity, their effects have been limited if our goal is to affect long-term and comprehensive behavioral change. Strategies to promote household waste reduction need to create strong multi-dimensional programs that ensure awareness, convenience, and incentives but that also help to build strong social environments, shared values and structural support through complimentary programs such as extended producer responsibility, strong prevention targets

and community-based collaborations between the public and private sectors (Cox et al. 2010). Certainly the optimal package of programs utilized is likely to be a product of the specific traits of the community.

IV. Moving Toward Sustainable Materials Management in Maine

The creation of a waste hierarchy in Maine marked an important shift toward sustainable materials management and an attempt to create a more efficient, sustainable and resourceful state economy. But we are still wasting materials and nutrients of significant value. While systems that can capture this value require significant investment, they can reduce long term costs and boost local, regional and state economies in the long term.

Waste-to-energy proved an important step toward reducing the volume of waste generated prior to end disposal. The benefit is that it both generates revenue from the creation of electricity while reducing the volume of the waste to be landfilled by approximately 90%. WTE remains an important part of waste management in our state. The current technological landscape for WTE facilities in Maine is between mass-burn systems and refuse-derived fuel systems (RDF). While ecomaine and (MMWAC) both use mass burn technology, PERC is an RDF. Mass burn technologies have proven to be more cost effective over time as capital costs per ton of capacity are higher and there are additional processing costs for RDF facilities according to the United Nations Environmental Programme.

New and emerging waste stream management technologies have the potential to create a great deal of improvement in the future of managing waste. These technologies have the capability of treating the waste as a resource and not a burden. However, these technologies are still subject to the same issues surrounding transportation, economies of scale, and Maine's low population density outside of the Portland area. Their place in Maine's waste hierarchy is also uncertain as they have complex processes. The most pressing concern in the DEP 5 year plan is removing organics from the waste stream. The use of Anaerobic Digestion, dry fermentation, or larger scale composting facilities to remove organics from the waste stream would accomplish the organics diversion objective from the 5 year plan, but significant capital and transportation barriers exist. Maine has one fully operation digester in Exeter with a couple in the preliminary planning phase with the future uncertain.

The Municipal Review Committee's proposed waste processing facility is an emerging technology that has interesting implications and potential. A report by Pendse et al. has a review of the proposed technologies. Fiberight is still in its infancy, but offers promising chemical and biological processes to produce various types of fuels from the waste. Whether or not the Fiberight plant gets built and what levels products and residuals it creates is still uncertain. On existing landfills, the capture of methane for combustion has become more common. There also exist several places where solar fields are being set up on top of closed landfills to utilize the space to create renewable energy. One example of this is Casella's landfill in Coventry, Vermont which is projected to produce over 3,000 mega-watt hours of electricity per year (Gerlat 2014).

The development and implementation of waste technologies that are efficient, cost-effective and allow us to reduce the amount landfilled, capture valuable materials and nutrients and contribute to new economic activity are certainly desirable on multiple levels. Our discussions with stakeholders from various areas of waste management in Maine suggest this is the case. But the incentive structures, processes, capital investments, public pressure and responsive leadership required to usher in such significant investments and transitions are not currently in place.

V. Learning and Leading: Drawing inspiration and Leading the Way

At the national level, federal guidance continues to advocate a roadmap, outlined in the document 'Sustainable Materials Management: The Road Ahead' (US EPA 2009). This approach focuses on creating prosperity using fewer materials. Wide arrays of policy tools are available to ensure more sustainable and efficient materials management practices and a movement toward an economy that wastes very little.

These policies are increasingly seen as an opportunity for both savings and new funding streams. The Ellen MacAurthur Foundation's report Towards the Circular Economy: Opportunities for the Consumer Goods Sector

(MacAurthur 2013) draws on analysis from McKinsey to estimate additional income of $1.5 billion annually if municipalities collected food waste from households to produce biogas or return nutrients to the soil. Drawing on analysis of the value embodied in products from multiple sectors (e.g. used clothing, appliances) the report estimates that we are currently wasting $2.6 trillion every year. The authors calculate that the full potential of a circular economy could result in material savings worth as much as $700 billion annually. Further, the development of industry to support materials collection and processing has significant job creation potential (MacAurthur 2013). The European Environment Agency (2013) writes, "If a country is to generate greater economic returns at lower costs to the environment then it must find ways to extract more value from the resources that it takes from nature, while cutting the burden of emissions and waste."

Some governments have made significant steps to ensure that materials management adheres to their waste hierarchy. In the European Union, for example, the hierarchy is integrated into the European Commission's Roadmap on a resource efficient Europe (EC 2011) and the EU's Waste Framework Directive (EU 2008). As part of the circular economy package the EU has adopted a legislative proposal that is projected to create 180,000 new jobs while making Europe more competitive and reduce demand for increasingly scarce resources. It aims to increase recycling and reuse of municipal waste to 70% by 2030 and to reduce food waste by 30% and phase out landfilling for recyclables by 2025.

Together these directives have prompted many countries such as Austria, the Netherlands and Germany to virtually eliminate landfilling. As a result the EU reduced landfilled waste by nearly 20 percent between 2001 and 2011 (Cox et al. 2013). Implemented policies in the EU, other US states and beyond range from the educational and voluntary to incentive-based soft policies and hard mandates. While Maine is certainly unique in many ways and leadership in materials management can certainly take a variety of forms, it is wise to look toward implemented programs in other locales to evaluate costs, benefits and suitability for our state.

Educational and Voluntary Programs:
A variety of programs have been put in place to encourage more sustainable behaviors through education and consumer "nudges". One interesting example is the EPA's "Food too Good to Waste" program which provides cities with a "toolkit" which includes educational materials and motivational challenges to engage households in food waste prevention. According to the program an average household in the US can save $1600 annually by reducing food waste alone. Composting can also cut down on the $750 million Americans spend each year to landfill waste and reduce the 14% of US greenhouse gas emissions associated with food waste (West Coast Forum 2014).

Incentives:
While several studies have illustrated that voluntary programs are much less effective, they are less politically contentious and not as deeply unpopular as hard restrictions on choice. Many scholars have shown that a desirable middle ground can be found in policies that provide economic incentives or disincentives for desirable actions. The European Environmental Agency has suggested, for example, that landfill fees can play an important role in incentivizing a shift up the waste hierarchy. Maine was an early leader in the development of policies designed to incentivize waste reduction and materials recovery. The "bottle bill", a container deposit program was enacted in 1976 and implemented in 1978. The system, still in place, makes a significant contribution to recycling rates.

In many municipalities PAYT programs have been put in place to give households an economic disincentive for generating waste. The requirement to purchase bags or stickers for collection provides households with the incentive to remain mindful of waste and reduce costs. Several studies suggest that these programs are largely successful though uncertainties remain about the perception to which these programs contribute to illegal dumping practices.

Mandates:
Many states and national governments have gone further than voluntary programs and incentives to restrict personal choice in the favor of the public interest. While disposal bans, purchasing requirements, mandatory

recycling and composting ordinances and product stewardship requirements often meet hard political resistance, they can be extremely effective. Not only do they result in significant improvements, but they can drive innovation.

Vermont's 2012 legislation is an example of an extremely proactive movement toward sustainable materials management. The state has required the "universal recycling of solid waste." The act bans disposal of recyclables by July 1, 2015; leaf and yard debris and clean wood by July 1, 2016; and food scraps by July 1, 2020. It also requires solid waste haulers and facilities to collect these same materials. The legislation also requires waste characterization and feasibility studies as well as the development of marketing potential for materials. Vermont is able to be aggressive with their food waste due to the high quantity of anaerobic digesters located in the state. Vermont and Maine are not identical and there are different barriers and opportunities predicated on geography, available facilities, and political environment.

Other states that also have landfill bans of recyclables include Massachusetts, Wisconsin, Minnesota, Michigan, and North Carolina. Some cities, such as Seattle, and states like Connecticut, have created mandatory recycling laws that level fines against citizens who throw away certain recyclable materials. California has also recently succeeded in passing SB 270 a plastic bag ban that prohibits grocery and convenience stores from providing free plastic bags after July 1, 2015.

Beyond landfill bans many governments have targeted actors further up the supply chain. British Columbia's Environmental Management Act (B.C. Reg. 449/2004 & 88/2014) has enacted a single "results-based framework that engages industry in new ways by shifting responsibility for environmentally sound product end-of-life management and recycling to producers and consumers". As such British Columbia requires producers of regulated products to submit stewardship plans before they may sell their products in the province. Currently the act includes; universals such as batteries and mercury switches but has also been expanded in recent years to include televisions, printers, smoke detectors and hand held devices.

Maine became a national leader in the establishment of product stewardship programs. It was among the first to implement stewardship requirements for mercury and batteries and now the program also includes electronic waste and cellular phones. Paint will be added as of April 1, 2015 and other products such as mattresses and carpets are under consideration. The DEP website states that, "Maine's Product Stewardship Framework law affirms product stewardship programs as an integral part of the State's solid waste management strategy…This process provides the opportunity for municipalities, manufacturers, retailers, consumers, and non-governmental organizations to provide their input into the establishment and revision of product stewardship programs in Maine," (Maine's Product Stewardship Program).

Comparative studies of landfilling and recycling rates show the importance of using multiple instruments and a systemic approach to materials management.

VI. Engaging Diverse Stakeholders in the Generation of Solutions

Finding solutions to solid waste problems requires the involvement of many people with different areas of expertise, including citizens, solid waste professionals communities, engineers, policy makers, and scientists. We cannot come up with sustainable solutions if some stakeholders are left out of the discussion. That said, it can be enormously challenging to bring people together who do not share the same goals, history, or perspectives on solid waste. We need to find ways to draw together that diverse knowledge to come up with an integrated solution.

Maine is being looked to as a model by other states because we are increasingly discovering ways to bring diverse groups together to come up with solutions on contentious topics. The University of Maine, through such activities as the Sustainability Solutions Initiative, has tested out ways that the university can be a helpful convener and partner on bringing together research and action on tough environmental issues.

The Maine Policy Review issue on environmental issues is filled with examples of how policy makers, researchers, and stakeholders are being successfully brought together to design solutions. Strategies described that we could draw on in solid waste discussions include:

- How to work at the local, county, and regional level
- How to find out if people want to work together and in what ways
- How to involve groups that haven't been able to communicate with each other in the past
- How to bring together people who have spent various amounts of time with a topic
- How to deal with a history of conflict
- How to take into account economic issues, environmental issues, and social issues
- How to deal with complex topics with a history of failed attempts to resolve them

The kinds of solutions include: product stewardship policies; public education and engagement campaigns; increased regional planning and coordination; landfill assessment fees; investments in developing markets for recyclables; investments in innovative new technologies that increase diversion or byproducts of solid waste disposal; partnerships to redesign local manufacturing capacity so that recovered materials can be utilized; and assistant programs such as grant funding for local improvements.

The right combination is certainly influenced by local context, but in general studies show that those governments using a broad range of instrument have higher levels of waste diversion than those with relatively few or no policy instruments.

VII. **Conclusion**

In this paper we have offered perspectives regarding the complexities that surround managing waste. The history of solid waste management is not one of zero progress; in fact a great deal of progress has been made with managing solid waste in the past thirty years. Thirty years ago lining a landfill and having a recycling operation was ground-breaking, today it is viewed as a bare minimum. Although waste generation rates per capita have plateaued, recycling rates have remained stable. Waste management is an essential facet of society, but it is an increasingly costly endeavor. Suitable landfill space near population centers are limited and therefore a precious resource to the state. Economic and environmental factors should weigh heavily into our materials management decision making process. The challenges and opportunities that are currently present for solid waste management in Maine require thoughtful, thorough analysis and discourse before action is taken. New technologies, regionalization, economic (dis)incentives, increased convenience for households, and other influences create opportunities for towns to improve their outcomes in managing trash, recycling, and other diverted materials. Government guidelines, policies, goals, and mandates can be utilized to direct municipal actions in how to determine what the appropriate way to manage their individual waste stream is. The ability of the many and diverse stakeholders to join forces and come to level of collective action not previously achieved may yield an increase in group knowledge, help overcome long-standing divides, and inspire improved outcomes. These possibilities are a starting point to bring all parties to the table to discuss how Maine can achieve the best possible outcome for the leftover waste/resources that we accumulate throughout the course of daily life.

Maine is at a crossroads with solid waste (materials) management. We know that solid waste issues are bigger than one community or municipality, and technical and policy issues are complex. The Mitchell Center can play a unique role in bridging the traditional barriers by working in partnership with the various stakeholders. Such an approach has had considerable success in other controversial areas in Maine including forestry, agriculture, urbanization, coastal systems, alternative energy, freshwater quality, and more. The Mitchell Center envisions leading a process where the various stakeholders work in an iterative and collaborative process that combines the vast wealth of knowledge and experience of the various individuals involved (waste management professionals, municipal and regional planners and managers, private companies, state officials, citizens, environmental and advocacy groups, universities, and other interested parties).

The Mitchell Center Waste Materials Management Research Group thanks you for reading our whitepaper and solicits your opinions in the comment section at the Materials Management Research Team's website.

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1-1-2014

Maine Materials Management Plan: 2014 State Waste Management and Recycling Plan Update and 2012 Waste Generation and Disposal Capacity Report

Maine Department of Environmental Protection

Report to the Joint Standing Committee on Environment and Natural Resources
126th Legislature, Second Session

Maine Materials Management Plan

2014 State Waste Management and Recycling Plan Update
&
2012 Waste Generation and Disposal Capacity Report

January 2014

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I. Executive Summary

This update to the Maine Solid Waste Management and Recycling Plan is undertaken every five years, in accordance with 38 MRSA §2122 and must provide guidance and direction to municipalities in planning and implementing waste management and recycling programs at the state, regional and local levels. In addition, the Plan is to incorporate changes in waste generation trends, changes in waste recycling and disposal technologies, development of new waste generating activities and other factors affecting solid waste management as the Department finds appropriate. This Plan update also includes the 2012 Waste Generation and Disposal Capacity Report, which is the source for much of the current data referred to within the Plan.

The Department views this Plan as the opportunity to provide information to municipalities and other solid waste managers on current efforts and other activities supporting the state's solid waste management hierarchy. This includes information on reduction, recycling, beneficial use, and conversion technologies, as well as the cost of solid waste services.

An Advisory Committee, made up of public, private and non-profit solid waste program and policy managers, was convened by the Department to assist in this Plan's development and content. The committee members received background documents on various topics and participated in two meetings. A listing of the Advisory Committee members may be found in Appendix A. The Department thanks the members for their participation and input to this Plan's update.

Priorities determined by the Department, with assistance from the Advisory Committee, are detailed in the Plan. Some of the priorities are unchanged from past plans, e.g., 'increase amount of materials recycled' and 'increase collection and use of organic residuals'. There are also several new priorities, reflecting changing technologies and options now available to municipalities and businesses, including 'conversion technologies'.

The Plan includes strategies and actions for the Department and solid waste management entities to be accomplished in the next five years, including short-term changes and groundwork for longer-term opportunities with capital investments that may require a longer period for return on investment.

II. Vision and Purpose

The 2014 Maine Materials Management Plan includes strategies and actions to foster a continued shift toward a holistic system of materials management in Maine. Such an approach takes a broad view, and addresses the management of materials and products through their complete lifecycles, rather than focusing solely on management at the end of life (e.g. disposal). The materials management approach recognizes the full range of opportunities that exist throughout these lifecycles, from product design and manufacturing to reuse and recycling, in order to conserve resources, foster sustainability and minimize environmental impacts.

This Plan is based on the priorities of Maine's Solid Waste Management Hierarchy (38 MRS §2101(1)) and furthers the hierarchy's policy to "*plan for and implement an integrated approach to solid waste management for solid waste generated in this State and solid waste imported into this State . . .*" The Plan includes strategies to enhance the State's waste reduction and diversion efforts, consistent with policy articulated in Maine law (38 MRS §2101(2)). The Plan builds upon the 2009 Maine Waste Management and Recycling Plan and the successes that have been achieved in such areas as recycling, beneficial use, toxics reduction and extended producer responsibility.

The Department envisions continuing: movement toward comprehensive sustainable materials management in Maine, focus on adherence to the principles of the Solid Waste Management Hierarchy in the development and implementation of programs and waste management systems, and expansion of waste reduction and diversion efforts.

The purpose of the 2014 Maine Materials Management Plan is to provide information, guidance and direction to municipalities, regions, businesses and others, regarding the status, development and implementation of sustainable materials management and waste management programs at the state, regional and local levels. The Plan identifies state priorities and establishes an action plan for the next 5 years, including strategies and actions through which the state can support the materials management, waste diversion, and recycling efforts of municipalities, regions and businesses. Maine statute (38 MRS §2122) provides that:

"The department shall prepare an analysis of, and a plan for, the management, reduction and recycling of solid waste for the State. The plan must be based on the priorities and recycling goals established in sections 2101 and 2132. The plan must provide guidance and direction to municipalities in planning and implementing waste management and recycling programs at the state, regional and local levels."

Specifically, the statute (38 MRS §2123-A) requires that the following elements be part of the plan:

> *"1. **Waste characterization**. The state plan must be based on a comprehensive analysis of solid waste generated, recycled and disposed of in the State. Data collected must include, but not be limited to, the source, type and amount of waste currently generated; and the costs and types of waste management employed including recycling, composting, landspreading, incineration or landfilling.*
> *2. **Waste reduction and recycling assessment**. The state plan must include an assessment of the extent to which waste generation could be reduced at the source and the extent to which recycling can be increased.*

*3. **Determination of existing and potential disposal capacity**. The state plan must identify existing solid waste disposal and management capacity within the State and the potential for expansion of that capacity.*

*4. **Projected demand for capacity**. The state plan must identify the need in the State for current and future solid waste disposal capacity by type of solid waste, including identification of need over the next 5-year, 10-year and 20-year periods."*

The law provides that the analysis is to be revised by January 1, 2014 and every 5 years thereafter, to incorporate changes in waste generation trends, changes in waste recycling and disposal technologies, development of new waste generating activities and other factors affecting solid waste management as the department finds appropriate.

The plan is based on the priorities and policies of the Solid Waste Management Hierarchy found at 38 MRS §2101:

*"**Priorities**. It is the policy of the State to plan for and implement an integrated approach to solid waste management for solid waste generated in this State and solid waste imported into this State, which must be based on the following order of priority:*

A. Reduction of waste generated at the source, including both amount and toxicity of the waste;
B. Reuse of waste;
C. Recycling of waste;
D. Composting of biodegradable waste;
E. Waste processing that reduces the volume of waste needing land disposal, including incineration; and
F. Land disposal of waste.

It is the policy of the State to use the order of priority in this subsection as a guiding principle in making decisions related to solid waste management.

***Waste reduction and diversion.** It is the policy of the state to actively promote and encourage waste reduction measures from all sources and maximize waste diversion efforts by encouraging new and expanded uses of solid waste generated in this State as a resource."*

The Plan is also based upon the State recycling and waste reduction goals found at 38 MRS §2132:

*"**State recycling goal.** It is the goal of the State to recycle or compost, by January 1, 2014, 50% of the municipal solid waste tonnage generated each year within the State.*

***State waste reduction goal**. It is the goal of the State to reduce the biennial generation of municipal solid waste tonnage by 5% beginning on January 1, 2009 and by an additional 5% every subsequent 2 years. This reduction in solid waste tonnage, after January 1, 2009, is a biennial goal. The baseline for calculating this reduction is the 2003 solid waste generation data gathered by the former State Planning Office."*

Although the State's recycling and waste reduction goals are specific to the municipal solid waste (MSW) portion of Maine's solid waste stream, the Plan includes information on the recycling and beneficial uses of construction & demolition debris (CDD) and other solid wastes such as industrial wastes.

In addition to revising the State's Solid Waste Management and Recycling Plan every five years, the Department is also charged with preparing the Solid Waste Generation and Disposal Capacity Report for the Legislature annually (38 MRS §2124-A). This report provides information on the statewide generation of solid waste, recycling rates and solid waste disposal capacity, and an analysis of the relationship between available disposal capacity and disposal prices. This year, the plan and the report have been combined into this single document.

III. Solid Waste Generation and Characterization

Solid waste is commonly categorized based on the type and source of the waste. Municipal solid waste (MSW) is waste that is typically generated by households and commercial businesses. The industrial sector also generates significant amounts of solid wastes that are regulated as "special waste" under Maine law because they have chemical or physical properties that make them difficult to handle or potentially pose a threat to public health, safety or the environment. (See Appendix B for statutory and regulatory definitions.)

Maine's solid waste management infrastructure includes municipal, commercial, and private industrial waste handling facilities. Once collected, solid waste in Maine is stored, transported, recycled, processed, beneficially used in place of virgin materials and as fuel, composted, digested, incinerated, and/or landfilled. Table 1 presents a summary of the types and amounts of solid waste generated in Maine in 2012.

Table 1 - 2012 Maine Solid Waste Types and Amounts

Waste type	2012 amount generated (tons)
Municipal Solid Waste (MSW)	1,307,787
Construction & Demolition Debris (CDD)/wood waste/landclearing debris	438,133
Special wastes (see Table 4 for break out by waste types and amounts)	828,184
Total Maine Generated Solid Waste 2012	**2,574,104**

In 2011, the University of Maine undertook a study to understand the types of solid waste Maine residents are disposing of in the mixed MSW stream. Figures 1 and 2 are reproduced from that report[1] to show the percentages of MSW by material type that currently is disposed of in Maine.

[1] *2011 Maine Residential Waste Characterization Study – School of Economics Staff Paper #601*; Criner, George K. and Blackmer, Travis L., University of Maine; http://umaine.edu/wcs/files/2012/02/2011-Maine-Residential-Waste-Characterization-Study1.pdf

Figure 1 - Composition of Disposed MSW

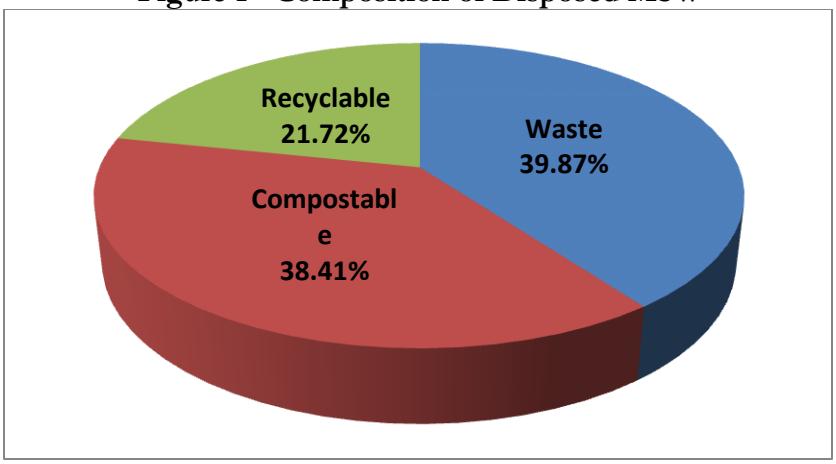
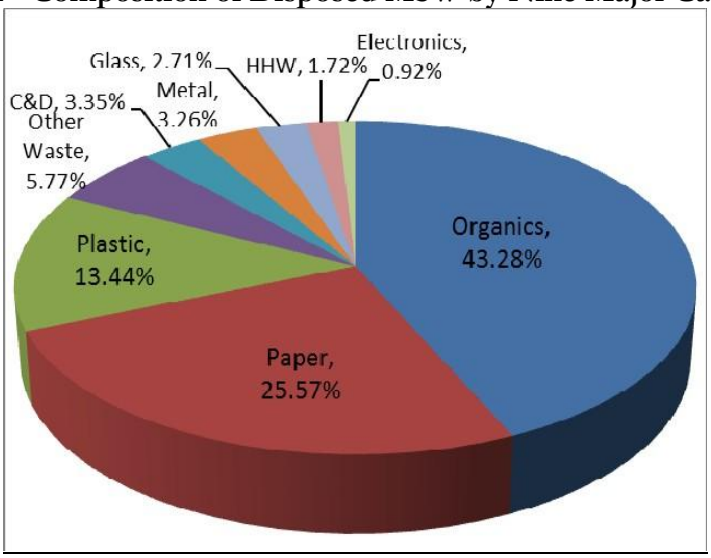


Figure 2 - Composition of Disposed MSW by Nine Major Categories



Understanding the composition of the MSW currently being landfilled or incinerated is critical to identifying the greatest opportunities for reducing MSW generation and increasing Maine's MSW recycling rate. The *2011 Maine Residential Waste Characterization Study* documented organics, paper and plastics as the three largest components in MSW disposed of from Maine. **Diversion of organics from disposal remains the largest opportunity to reduce Maine's waste stream**.

IV. Managing Maine's Solid Waste – Progress toward State Goals

In keeping with the Solid Waste Management Hierarchy (38 MRS §2101), there are a variety of options employed for managing Maine's solid waste. Appendix C is a table that provides an overview of management options currently employed for the various components of Maine's solid waste stream. This table provides a qualitative assessment of the comparative use of the management options. The options are grouped by levels on the Hierarchy, with those listed to the left preferable to those toward the right due to the resulting preservation and use of materials. By

examining Maine's waste stream by material type and current management options, we can identify opportunities for "moving up the hierarchy", decreasing disposal and increasing waste reduction, reuse, recycling and beneficial use.

A. Maine's Municipal Solid Waste Reduction Goal

Maine's statutory goals for waste reduction focus specifically on MSW. 38 MRS §2132(1-A) sets a State goal of reducing the biennial generation of municipal solid waste tonnage by 5% beginning on January 1, 2009, and by an additional 5% every subsequent 2 years. As Maine's recycling rate has held steady over the past several years, the State has experienced a reduction in the generation of MSW as reflected in the amounts of MSW disposed of in landfills and waste-to-energy incinerators. While historically there has been a positive correlation of MSW generation with activity in the overall economy, additional factors such as manufacturers' corporate sustainability initiatives that decrease the amount of packaging associated with consumer goods may be having an increasing impact.

In 2012, Maine residents generated and disposed of 0.537 tons (1,074 pounds) of MSW per person. Regional comparisons for 2010 show Mainers generated less MSW per person than any other New England state.

Table 2 - Per Capita MSW Disposal Rates – New England States 2010

State	Tons MSW Disposed 2010	2010 population	Tons per person
Maine	751,270	1,328,361	0.566
New Hampshire	748,028	1,316,470	0.568
Connecticut	2,371,767	3,574,097	0.664
Vermont	449,661	625,741	0.719
Massachusetts	4,830,756	6,547,629	0.738
Rhode Island	1,031,080	1,052,567	0.980

Municipal Solid Waste (MSW) Interstate Flow in 2010, January 30, 2013, Northeast Waste Management Association (www.newmoa.org)

The Department has been working with the Northeast Waste Management Officials' Association (NEWMOA) to quantify and track the interstate flow of MSW destined for disposal since 1999. The data collected show that the amount of MSW (exclusive of CDD and WTE ash) disposed of by Maine residents (both in-state and exported) decreased from 755,086 tons in 2008 to 713,713 tons in 2012. **This is a 5.5% decrease in disposal of MSW in 4 years**.

B. Maine's Municipal Solid Waste Recycling Rate

In 1989, the Maine Legislature enacted 38 MRS §2132, establishing a goal to recycle or compost 50% of the state's municipal solid waste annually. The legislated date to achieve the goal was revised in 2012 and extended to January 1, 2014. Individual municipal and regional recycling programs are not required to achieve a 50% recycling rate, but they are required to demonstrate progress towards the goal. The State remains committed to reaching the 50% goal in light of the value of reducing overall solid waste management costs, the positive impact on the environment, and a lessening of the need for additional solid waste disposal capacity.

The MSW recycling rate is calculated by dividing the total amount of MSW recycled by the total amount of reported in-state generated MSW in accordance with 38 MRS §2132 (3). The term "municipal solid waste" is not defined in Maine law, but has historically been interpreted as solid waste normally managed by municipalities in Maine, including CDD. However, other states and the U.S. Environmental Protection Agency (US EPA) exclude CDD from their calculations of MSW recycling rates. This creates inconsistencies when trying to compare Maine's calculated MSW recycling rate with the MSW recycling rates of other states. To address this, the Department has calculated the recycling rate for MSW as defined by EPA, and a separate recycling rate that includes CDD. This approach allows Maine to perform an apples-to-apples comparison with other states' MSW recycling rates, while also enabling Maine to evaluate where further efforts are needed to improve diversion of the broader spectrum of disposed materials handled by municipalities in Maine.

To determine the amount of material recycled in all years prior to this one, the State Planning Office and the Department utilized the annual municipal solid waste program reports submitted by communities, along with voluntarily reported data from commercial processors and materials brokers to determine MSW recycling from the commercial sector. However, this calculation was not a precise measurement as the data sets were incomplete. Many municipal reports had incomplete or inaccurately-reported data, and the agencies were unable to obtain data from all the commercial processors and materials brokers. This calculated recycling rate also reflects only recorded and reported information, and does not include volumes diverted by activities such as backyard composting, reuse from donations and used goods sales, and other unregulated strategies.

This year the Department engaged in a concerted effort to request recycling data from all commercial processors and materials brokers known to be operating in Maine to better understand the extent of the deficiencies in reporting on recyclables. Almost all of the processors and brokers were able to provide the Department with the amounts by material types and destinations for the materials they managed. This enabled the Department to eliminate any duplicative data (created when a commodity material was handled by multiple processors/brokers), and to check the data reported by municipalities in comparison to the data on municipal recycling reported by the materials processors and brokers.

The results of this effort confirmed that the reported data used to calculate Maine's MSW recycling rate has been incomplete in recent years. This is due to two factors: 1) many of Maine's municipalities do not have the resources needed to ensure complete and accurate reporting on municipal and commercial recycling within their borders in conformance with 38

MRS §2133 (7); and 2) materials processors and brokers of recyclables are not required to report on their activities in Maine.

Based on the data collected in previous years, Maine's recycling rate has remained fairly steady for the past ten years, ranging from a low of 34.8% in 2007 to a high of 39.6% in 2011. However, because deficiencies have been identified in the most recent data reported by municipalities, the Department has calculated the 2012 recycling rate by utilizing the more complete data voluntarily reported by materials processors and brokers. In addition to the 554,225 tons reported as recycled or composted, the Department estimates the non-reporting processors and brokers handled up to 5,000 tons of recyclable materials.

Table 3 - 2012 Maine's MSW Recycling Rate Calculation

	Tons
MSW landfilled in state	237,543
MSW disposed of through incineration in state (amount in minus amount WTE ash)	354,957
MSW incinerator ash landfilled in state	121,213
MSW disposed of out-of-state	39,849
Subtotal Maine MSW (exclusive of CDD) disposed	753,562
Paper, cardboard, plastics and glass recycled - (voluntarily reported by materials processors and brokers)	183,557
Single Stream Recycling (not included above)	25,892
Other MSW recycled (computers and monitors, white goods, metals, tires, vehicle batteries, asphalt shingles, sheetrock, and textiles)	307,725
Reported MSW composted (includes leaf & yard waste, food scraps)	37,051
Subtotal Maine MSW recycled & composted	554,225
Total Maine MSW (exclusive of CDD)	1,307,787
Maine's MSW Recycling Rate (exclusive of CDD)	**42.38%**
Mixed CDD landfilled in state	289,497
Mixed CDD processed/disposed of out of-state	7,190
Landclearing debris landfilled	3,573
Beneficial use of processed CDD and landclearing debris	137,873
Total CDD and landclearing debris	438,133
Maine's CDD & Landclearing Debris Recycling Rate	**31.5%**
Total MSW, CDD & landclearing debris	1,745,920
Total MSW, CDD and landclearing debris recycled (including wood waste used as fuel chips)	692,098
Maine's Combined MSW, CDD & Landclearing Debris Recycling Rate	**39.6%**

C. Additional Waste Diversion

Maine generated more than 800,000 tons of wastes other than MSW and CDD in 2012. **One third of this material was diverted from disposal to composting, agronomic utilization or other beneficial uses.** Examining the various types of materials and the amounts utilized or disposed of as shown in Table 4 may provide insights into additional opportunities to increase diversion of some of these materials from disposal.

Table 4 - 2012 Disposition of Maine Solid Wastes other than MSW & CDD

Waste type	Beneficial use	Compost /N-Viro[2]	Land applied	Exported from Maine	Landfilled	Total
Asbestos/Asbestos Containing Waste	0	0	0	0	3,415	**3,415**
Ash - Boiler	2,912	0	0	0	123,843	**126,755**
Ash - Coal, oil and multifuel boiler	4,660	3,731	11,727	5,594	6,233	**31,945**
Ash - MSW Incinerator	0	0	0	0	121,213	**121,213**
Ash - Wood	40,807	0	0	0	352	**41,159**
Ash- Burn pile/hot loads	0	0	0	0	2,332	**2,332**
Ash/Liming Agent - Other	0	0	15,606	0	0	**15,606**
Catch basin grit and street sweepings	1,570	0	0	0	4,602	**6,172**
Contaminated Soils - non-petroleum	0	0	0	0	5,504	**5,504**
Contaminated soils - Oil	UD	0	UD	0	2,873	**2,873**
Dredge Spoils	7,390	0	0	0	55	**7,445**
Fish/Food Process Residue	0	2,840	38,232	581	0	**41,653**
Industrial/Industrial Process Waste	0	0	0	0	44,554	**44,554**
Other Special Wastes	0	0	0	9	15,403	**15,412**
Pulp/Papermill Sludge	20,162	4,202	0	0	38,973	**63,337**
Sandblast Grit	0	0	0	0	367	**367**
Short-Paper Fiber	29,789	0	0	0	4,884	**34,673**
Shredder Residue	0	0	0	4,871	32,103	**36,974**
WWTP Sludge - industrial	0	0	39	0	96,746	**96,784**
WWTP Sludge - municipal	0	79,068	10,655	0	40,310	**130,033**
Total	**107,290**	**89,841**	**76,258**	**11,055**	**543,760**	**828,184**

[2] N-Viro Soil is a trademarked product

Table 4 does not include all materials that could have become wastes, since many materials never enter the waste stream (e.g. recycled asphalt pavement). The 2012 data for the use of these materials, and some shown in Table 4, are compiled from a variety of sources and remain under development (UD) at the time of this report issuance.

Recent developments in conversion technologies that process organic wastes to create fuels are creating new opportunities to significantly increase the diversion of additional solid wastes from disposal in Maine. Appendix D describes these technologies and the types of materials they may use.

V. Plan for State Action to Move toward Sustainable Materials Management – 2014 - 2018

The priorities for Maine DEP's work on sustainable materials management for the next 5 years are to:

- Encourage the development of new infrastructure for separation from the waste stream and utilization of organics, including composting and technologies such as anaerobic digestion.
- Encourage increased beneficial use and recycling of materials, including identification of incentives and removal of unnecessary barriers.
- Provide tools and assistance to municipalities and businesses to support waste reduction and diversion efforts.
- Continue refinement of data sources and data management systems to more accurately and consistently assess progress toward statewide reduction and recycling goals, and to evaluate the effectiveness of programs and strategies.

The following strategies and actions are identified as ways for the State to focus its resources on the priorities identified as achievable and likely to have the greatest impact in improving waste reduction and diversion in Maine during the next five years.

A. Strategies and Actions to Promote Organics Management and New Technologies

- Provide technical and regulatory assistance to support development of regional and/or co-located processing facilities, including collection, sorting, composting, and biological and chemical conversion technologies.
- Develop solid waste management regulations specific to the licensing and operation of conversion technologies.
- Provide technical and regulatory assistance to support development of local food scrap composting operations, including on-farm operations and expansion of leaf and yard

waste facilities to include food scraps. Engage agricultural community to identify and address needs to increase participation in food scrap composting.

- Assist food scrap generators to identify and work with facilities that offer alternatives to disposal, such as compost facilities and anaerobic digesters.
- Develop outreach and education strategy to assist food scrap generators with separation programs.
- Develop case studies of successful organics separation and management operations, highlighting strategies for addressing potential issues such as odors, staff training, and additional resource needs.

B. Strategies and Actions to Increase Beneficial Use and Recycling

- Update recycling promotional campaign materials, develop additional materials for other diversion strategies, and maintain online.
- Coordinate with other Northeast States to develop regional approaches to support the development of recycling options for discarded mattresses and carpet.
- Identify and remove unnecessary barriers to the use of CDD wood as fuel, including review of waste characterization protocols.
- Explore opportunities to provide incentives for the use of municipally-generated CDD wood as biomass fuel.
- Update non-hazardous waste transporter regulations to reduce/remove requirements that no longer significantly improve environmental outcomes.
- Evaluate collection strategies for single-use (primary) batteries, antifreeze, and small gas cylinders, or other difficult to dispose of products.

C. Strategies and Actions to Support Municipalities and Businesses

- Develop and distribute waste diversion measurement tool for municipalities.
- Identify measurement tools for municipal and business entities to evaluate the environmental impacts of materials management systems, including greenhouse gas emissions.
- Continue program activities related to education, collection and proper disposal of unwanted pharmaceuticals and medical sharps
- Provide assistance to municipalities and businesses to improve collection and recycling of electronic wastes, mercury containing products, and architectural paint.
- Update and distribute building deconstruction guidance.
- Provide for positive public recognition of entities including municipalities, regions, and businesses that have made changes in their processes and systems that result in significant diversion of materials from disposal.

D. Strategies and Actions to Provide Reliable Data to Support Sustainable Materials Management

- Collect, utilize and disseminate reliable data to calculate statewide recycling and diversion rates for MSW and other solid wastes:
    - Develop and implement standardized data collection and management procedures and requirements for reporting of marketed recyclables by materials processors and brokers.
    - Develop and publish annual waste generation, diversion and disposal rates for industrial wastes.
    - Continue to develop and publish annual waste generation rates for MSW, including CDD.
- Assist municipalities in tracking of municipal recycling rates by developing and distributing a model methodology to calculate municipal generation, diversion and disposal rates for MSW.
- Collect, utilize and disseminate reliable data on annual waste diversion through beneficial use, agronomic utilization, anaerobic digestion, and waste conversion practices.

VI. Conclusion

Many opportunities remain in Maine to further divert materials from disposal. Organic materials such as food scraps can be separated from the waste stream and composted or processed by conversion technologies such as anaerobic digesters. Other types of conversion technologies can process a variety of materials to produce synthetic gas or liquid fuel. Additionally, improvements in data quality can assist the Department, municipalities and regions to better evaluate the performance and effectiveness of waste management and diversion programs in Maine.

The Department has identified a number of strategies to increase diversion rates, reduce disposal volumes, and to further utilize materials in Maine. The Department will evaluate and implement programs to encourage food scrap separation by industrial, commercial and institutional entities. The Department will also revise its regulations to clarify and specify licensing requirements for facilities utilizing conversion technologies. The Department recommends that facilities currently producing large volumes of or managing waste materials explore opportunities to establish co-located conversion technologies to achieve the greatest efficiencies through fuel generation and minimization of transportation costs.

These strategies can provide domestic, renewable energy sources, contribute to local economies, reduce greenhouse gas emissions, and extend the lifespan of Maine's existing landfill capacity.

Appendices

Appendix A – 5-Year Plan Advisory Committee

John	Adelman	CPRC, Scarborough
Ed	Barrett	City of Lewiston
Pete	Didisheim	Natural Resources Council of Maine
Mark	Draper	Tri Community Landfill, Caribou
Bob	Duchesne	Consultant to USA Energy Group, LLC
Richard	Geisser	ReEnergy
Victor	Horton	Maine Resource Recovery Association
Jared	Jacobs	One Steel
Joe	Kazar	Mid Maine Waste Action Corporation
Lee	Liner	Bath Public Works
Greg	Lounder	Municipal Review Committee
Jeff	McGown	Waste Management, Crossroads Landfill
Beth	Milligan	TOMRA (Returnable Services)
Troy	Moon	City of Portland
John	O'Connell	Lincoln County
Brian	Oliver	Casella Waste
Mac	Richardson	LAWPCA
Kevin	Roche	ecomaine
Ron	Slater	Sandy River Recycling Association
Dave	St Laurent	City of Rockland
Roberta	Scruggs	Maine Forest Products Council
Sarah	Wintle	Exeter Agri-Energy

Beneficial use of waste (38 MRS §2132 (3)). The use of waste paper, waste plastics, waste wood, including wood from demolition debris, used motor vehicle tires or corrugated cardboard as a fuel in industrial boilers or waste-to-energy facilities for the generation of heat, steam or electricity constitutes recycling only for the purposes of determining whether the goals in subsection 1 are met and for determining municipal progress as provided in section 2133. In order for the use of waste under this subsection to constitute recycling, the department must determine that there is no reasonably available market in the State for recycling that waste and the wastes must be incinerated as a substitute for, or supplement to, fossil or biomass fuels incinerated in the industrial boiler or waste-to-energy facility.

Municipal solid waste (06-096 CMR 400 (NNNN)). "Municipal solid waste" means solid waste emanating from household and normal commercial sources. Municipal solid waste includes front end process residue from the processing of municipal solid waste.

Recycle (38 MRS §1302-C (21)). "Recycle" means to recover, separate, collect and reprocess waste materials for sale or reuse other than use as a fuel for the generation of heat, steam or electricity.

Recycling (38 MRS §1302-C (22)). Recycling. "Recycling" means the collection, separation, recovery and sale or reuse of materials that would otherwise be disposed of or processed as waste or the mechanized separation of waste, other than through combustion, and the creation and recovery of reusable materials other than as a fuel for the generation of electricity.

Solid waste (38 MRS §1302-C (29)). "Solid waste" means useless, unwanted or discarded solid material with insufficient liquid content to be free-flowing, including, but not limited to, rubbish, garbage, refuse-derived fuel, scrap materials, junk, refuse, inert fill material and landscape refuse, but does not include hazardous waste, biomedical waste, septage or agricultural wastes. The fact that a solid waste or constituent of the waste may have value or other use or may be sold or exchanged does not exclude it from this definition.

Solid waste facility (38 MRS §1303-C (31)). "Solid waste facility" means a waste facility used for the handling of solid waste, except that the following facilities are not included:

A. A waste facility that employs controlled combustion to dispose of waste generated exclusively by an institutional, commercial or industrial establishment that owns the facility;

B. Lime kilns; wood chip, bark and hogged fuel boilers; kraft recovery boilers and sulfite process recovery boilers, which combust solid waste generated exclusively at the facility; and [

C. An industrial boiler that combusts mixed paper, corrugated cardboard or office paper to generate heat, steam or electricity if:

(1) The mixed paper, corrugated cardboard or office paper would otherwise be placed in a landfill;

(2) The market value of the mixed paper, corrugated cardboard or office paper as a raw material for the manufacture of a product with recycled content is less than its value to the facility owner as a fuel supplement;

(3) The mixed paper, corrugated cardboard or office paper is combusted as a substitute for, or supplement to, fossil or biomass fuels that constitute the primary fuels combusted in the industrial boiler; and

(4) The boiler combusts no other forms of solid waste except as provided in this subsection.

Special waste (38 MRS §1303-C (34)). "Special waste" means any solid waste generated by sources other than domestic and typical commercial establishments that exists in such an unusual quantity or in such a chemical or physical state, or any combination thereof, that may disrupt or impair effective waste management or threaten the public health, human safety or the environment and requires special handling, transportation and disposal procedures. Special waste includes, but is not limited to:

A. Oil, coal, wood and multifuel boiler and incinerator ash;
B. Industrial and industrial process waste;
C. Waste water treatment plant sludge, paper mill sludge and other sludge waste;
D. Debris and residuals from nonhazardous chemical spills and cleanup of those spills;
E. Contaminated soils and dredge spoils;
F. Asbestos and asbestos-containing waste;
G. Sand blast grit and nonliquid paint waste;
H. (repealed)
I. High and low pH waste;
J. Spent filter media and residue; and
K. Other waste designated by the board, by rule.

Appendix C - Current Management of Maine's Solid Waste by Type

Waste categories & types	Source reduction	Reuse and re-purpose	Recycle	Compost	Beneficial Use			Processing		Disposal	
					Agronomic Utilization	Raw material substitution	Fuel Substitution	Anaerobic Digestion	Conversion (gasification /pyrolysis)	WTE incineration	Landfill
	Note: N = None, I = Incidental, L = Low, M = Medium, H = High, gray shaded = Not applicable (not possible)										
MSW											
Organics											
Food waste	L	L		L				L	N	H	H
Leaves & grass	I	L		M					N	L	M
Prunings & trimmings	I	L		M			L		N	L	M
Other organics	N			N				N	N	H	H
Paper											
Corrugated cardboard (OCC)	L	L	M	L					N	M	M
Newspapers (ONP)	M	M	M	L					N	M	M
Magazines/catalogs	L	L	M						N	M	M
High grade office paper	L	L	M	L					N	M	M
Mixed paper	L	I	M						N	H	H
Plastics											
#1 PETE/PET	M	I	H			N	L		N	L	L
#2 HDPE	L	I	H			N	L		N	L	L
#3 PVC	L	I	M			N			N	M	M
#4 LDPE	L	I	M			N	L		N	M	M
#5 polypropylene	L	I	M			N	L		N	M	M
#6 polystyrene (Styrofoam)	L	I	M			N	L		N	M	M
#7 miscellaneous plastics	L	I	M			N	L		N	M	M

Appendix C - Current Management of Maine's Solid Waste by Type

Waste categories & types	Source reduction	Reuse and re-purpose	Recycle	Compost	Beneficial Use			Processing		Disposal	
					Agronomic Utilization	Raw material substitution	Fuel Substitution	Anaerobic Digestion	Conversion (gasification /pyrolysis)	WTE incineration	Landfill
plastic films	N	I	L			N	L		N	H	H
large rigid plastics	N	L	L			N	L		N	H	H
Metals											
Aluminum cans/foil	M	I	H							L	L
Steel Cans	L	I	M							M	M
Metals - ferrous	N	I	H							L	L
Metals - non-ferrous	N	I	H							L	L
Glass											
Brown/amber glass	I	L	H			L				L	L
Clear glass	I	I	H			L				L	L
Green glass	I	I	H			L				L	L
Consumer products											
Pesticides & fertilizers	I									H	H
Rechargeable batteries			L							H	H
Primary batteries	I		I							H	H
Paint	I	L	I							H	H
mercury-added thermostats	H	I	L							H	H
Mercury-added lamps	I		L							M	M
mercury devices	I		L							M	M
	Source	**Reuse**	**Recycle**	**Compost**	**Beneficial Use**			**Processing**		**Disposal**	

Appendix C - Current Management of Maine's Solid Waste by Type

Waste categories & types	reduction	and re-purpose			Agronomic Utilization	Raw material substitution	Fuel Substitution	Anaerobic Digestion	Conversion (gasification /pyrolysis)	WTE incineration	Landfill
small appliances	I		I							H	H
cell phones & other hand-held electronics	I	I	L							H	H
TVs & computer-related equipment	I	M	H							I	I
other consumer electronics	I	M	L							H	H
Vehicle Batteries			H							N	I
Tires		M	I			M	H		N	I	I
Unused medications	L	I		N					N	H	M
Sharps			N						N	H	H
textiles		L	L				N		N	M	M
mercury auto switches	H		M							M	I
CDD/wood waste/OBW											
Mixed CDD			L						N	I	H
Metal			H							I	L
Clean C&D wood			N			N	M		N	I	M
Coated/contaminated C&D wood						N			N	I	H
Treated wood						N	L		N	I	H
Asphalt roofing material			N			M	N		N	I	M
Wallboard			L		L	N				I	H
Carpet	L	I	L				N		N	I	H

Waste categories	Source reduction	Reuse and re-	Recycle	Compost	Beneficial Use			Processing		Disposal	
					Agronomic	Raw	Fuel	Anaerobic	Conversion	WTE	Landfill

Appendix C - Current Management of Maine's Solid Waste by Type

& types		purpose			Utilization	material substitution	Substitution	Digestion	(gasification /pyrolysis)	incineration	
Furniture & mattresses		L	L						N	L	H
Electrical			I							L	H
Asbestos -containing materials										I	H
Asphalt			H								L
White goods		I	H								I
Landclearing debris					L	N	L		N		L
PVC pipe and siding	N		I						?		H
Special wastes											
WWTP sludge				H	L		L	L	N		L
industrial process wastes					L	N	N		N		H
food processing waste				M				L	N		M
Shredder residues						?			N		H
Multi-fuel boiler ash						N					H
Wood ash					M	N					M
Coal ash						N					H
MSW ash											H
Burn pile ash											H
Contaminated soils						N					H
Dredge materials						M					M
Sandblast grit						N					H
Catch basin grit & street sweepings						N					H

There are three broad categories of waste conversion technologies: 1) thermochemical, such as gasification, pyrolysis, and plasma arc technology; 2) physiochemical, such as distillation of ethanol and the production of biodiesel; and 3) biochemical, such as anaerobic digestion and ethanol fermentation and hydrolysis. Potential benefits of these technologies include lower greenhouse gas and other air emissions, renewable energy production, offset of fossil fuels, and beneficial use of waste materials.

Four technologies are briefly discussed here because they are new and have relevance for Maine and large-scale applications for waste management.

1. Gasification

Gasification is a term that describes a chemical process by which carbonaceous (hydrocarbon) materials (coal, petroleum coke, biomass, etc.) are converted to a synthesis gas (syngas) by means of partial oxidation with air, oxygen, and/or steam.

A hydrocarbon feedstock is fed into a high-pressure, high-temperature chemical reactor (gasifier) containing steam and a limited amount of oxygen. Under these "reducing" conditions, the chemical bonds in the feedstock are severed by the extreme heat and pressure and a syngas is formed. This syngas is primarily a mixture of hydrogen and carbon monoxide. The syngas is then cleansed using systems that remove particulates, sulfur, and trace metals. The resulting gas mixture is a fuel.

Gasification is potentially a very efficient method for extracting energy from many different types of carbon-containing materials. More of the energy contained in the materials is extracted by gasification than direct combustion of the original fuel, such as occurs in the current waste-to-energy technologies employed in Maine. In addition, the high-temperature process refines out corrosive ash elements allowing cleaner gas production from otherwise problematic fuels, and produces lower emissions of greenhouse gases than waste-to-energy systems.

2. Plasma Arc Technology

Plasma arc gasification as a waste treatment technology uses high electrical energy and high temperature created by an electrical arc gasifier to break down the waste primarily into elemental gas and a solid waste slag. The process is intended to be a net generator of electricity, depending upon the composition of wastes, and also to reduce the volumes of waste being sent to landfill sites.

A different type of plasma arc waste conversion that uses plasma to refine gases produced during waste conversion, rather than to destroy waste, has recently been shown to be successful on a full commercial test scale in Ontario. Its emissions are lower than other thermal waste processing systems, and by converting waste to CO_2 and water, rather than to methane, the greenhouse gas emissions are much less than those from competing technologies.

There are a number of large scale plasma projects proposed to come on line over the next several years including proposals in Ottawa, Ontario, St. Lucie County, Florida and the City of Tallahassee, Florida.

3. Biochemical – Anaerobic digestion

Anaerobic digestion is a process where microorganisms break down organic materials, such as manure, sewage sludge and food scraps, in the absence of oxygen. This decomposition process produces biogas, made primarily of methane and carbon dioxide, which is captured and combusted to produce electrical energy and heat. The digestion process also produces a liquid digestate that can be used as a soil amendment, and a solid digestate that can be utilized as a bedding material for livestock, composted or applied to crop land to enrich the soil.

Anaerobic digesters may utilize animal manure or sewage sludge as its primarily organic feedstock, with food scraps added as another organic feedstock, or food can be digested at facilities specifically designed for the organic portion of municipal solid waste. Co-digestion is a process whereby additional, energy-rich organic materials (e.g. food scraps or fats, oils, and grease) are added to dairy or wastewater digesters that have excess processing capacity.

There are currently several anaerobic digesters in operation in Maine, using either animal manures or sewage sludge as the primary organic material, with other facilities in planning or discussion phase.

4. Landfill Gas

Landfills can be actively managed for their gas recovery potential. The gas can be used to fuel generators to produce electricity, piped to other fuel combustion facilities, or compressed and bottled. The gas is collected by placing pipes in the landfill, and maintaining slight pressure sufficient to draw the gas into a recovery plant but not enough to draw oxygen in through the landfill cap. The gas is then cleaned and either piped to a generator plant, a local application, or a compressor plant.

There are currently two landfills in Maine capturing landfill gas and combusting it in on-site facilities to generate electrical power for the grid: the closed former Pine Tree Landfill in Hampden (owned by Casella Waste Services) and the currently active Crossroads Landfill in Norridgewock (owned by Waste Management Inc.) The state owned landfill in Old Town, Juniper Ridge, is currently flaring its landfill gas, but discussions are underway to beneficially capture and utilize that gas through an agreement with the University of Maine at Orono.

Federal EPA Overview Conversion Technologies

Table ES-1. Overview of Conversion Technology Characteristics.[1]

Conversion Technologies	Pyrolysis	Gasification	Anaerobic Digestion
Feedstock	Plastics	MSW[2]	Food, yard, and paper wastes
Primary End Product(s)	Synthetic Oil, Petroleum Wax	Syngas, Electricity, Ethanol	Biogas, Electricity
Conversion Efficiency[1]	62–85%	69–82%	60–75%
Facility Size (Capacity)	10–30 tons per day	75–330[3] tons per day	10–100[5] tons per day
Product Energy Value	15,000–19,050 BTU/lb	11,500[4]-18,800 BTU/lb	6,000–7,000[5] BTU/lb

1 Conversion efficiency is defined as the percentage of feedstock energy value (e.g., btu/lb) that is transformed to and contained in the end product (e.g., syngas, oil, biogas).

2 Only certain MSW fractions can be input to a gasifier. Glass, metals, aggregate, and other inerts are not desirable and may cause damage to the reactor.

3 Total capacity permitted based on vendor communications. Geoplasma's St. Lucie, FL plasma gasification plant is permitted up to 686 tons/day, but the vendor could not be reached for confirmation. [Note: as of September 2012, the St. Lucie facility is no longer in development]

4 LHV of ethanol

5 Estimated. AD facilities can span a wide range of sizes, input feedstocks, and designs.

U.S. Environmental Protection Agency's October 2012 report, "State of Practice for Emerging Waste Conversion Technologies" (http://nepis.epa.gov/Adobe/PDF/P100FBUS.pdf)

While the application of these technologies to municipal solid waste (MSW) feedstocks is only emerging in the United States (U.S.), these technologies have been applied for the management of MSW in other parts of the world, such as Australia, Canada, Europe, and Japan. A key aspect of international applications is that they are part of waste systems with advanced segregation, such as source segregated organics collection. Where conversion technologies have been most successful is in locations with already established programs for waste segregation and collection, dedicated waste streams (e.g., plastic from industrial partners), and waste supply contracts so that potential plants can operate economically.

Table 5 - Available Licensed MSW Disposal Capacity in Maine

Waste-to-Energy Facilities	***Annual capacity***	**2012 (tons/year)**	**2017 (tons/year)**	**2022 (tons/year)**	**2032 (tons/year)**
MMWAC – Auburn	70,000	70,000	70,000	70,000	70,000
ecomaine – Portland	170,000	170,000	170,000	170,000	170,000
PERC – Orrington	304,000	304,000	304,000	304,000	304,000
MERC	310,000	310,000	0	0	0
Total incinerator capacity in tons	**854,000**	**854,000**	**544,000**	**544,000**	**544,000**
	2012 Fill rate (cubic yards)	**2012 (cubic yards)**	**2017 (cubic yards)**	**2022 (cubic yards)**	**2032 (cubic yards)**
State-owned landfills:					
Carpenter Ridge – T 2 R 8	N/A	Not developed	Not developed	Not developed	Not developed
Juniper Ridge – Old Town	586,775	5,280,000	2,346,125	0	0
Municipal MSW landfills					
Augusta - Hatch Hill	49,718	961,488	712,898	464,308	0
Bath	23,000	340,000	225,000	110,000	0
Brunswick	9,943	227,337	177,622	127,907	28,477
Presque Isle	19,240	1,455,091	1,358,891	1,262,691	1,070,291
Tri-Community	25,204	1,677,653	1,551,633	1,425,613	1,173,573
Municipal 'ash' landfills					
ecomaine	22,174	772,602	661,732	550,862	329,122
Lewiston	17,559	608,370	520,575	432,780	257,190
Commercial landfills					
WM Crossroads - Norridgewock	255,873	3,910,662	2,631,297	1,351,932	0
Total landfill capacity in cubic yards	1,009,486	15,233,203	10,185,773	5,726,093	2,858,653
Total disposal capacity	**1,553,486**	**15,777,203**	**10,729,773**	**6,270,093**	**3,402,653**

1 cubic yd MSW = 625 lbs.

TABLE 6 - LANDFILLED TONNAGES AND REMAINING LANDFILL CAPACITIES – 2012									
Landfill	**MSW (tons)**	**CDD (tons)**	**Special Wastes (tons)**	**Other Materials and Descriptions**		**Capacity Consumed in 2012 (cubic yards)**		**Constructed Capacity Remaining (cubic yards)**	**Licensed Capacity Remaining (cubic yards)**	**Years of Licensed Capacity Remaining at current fill rate**
Augusta - Hatch Hill	27,570	(included in MSW)	3,514	13,532 yds^3 of cover materials		49,718		961,488	961,488	17.5
Bath	11,920	1,232	718	25,309 yds^3 of cover materials		23,000		126,000	340,000	14.8
Brunswick	3,346	(included in MSW)	0			9,943		227,337	227,337	22.9
Presque Isle	7,489	1,225	1,881	2,014 yds^3 of cover materials		19,240		265,091	1,455,091	53
Tri-Community	24,979	1,099	1,405	5330 tons of bark mulch as cover materials		25,204		577,653	1,677,653	66.6
ecomaine	0	0	49,838	Excavated 3,987 tons MSW to combust, and 8,254 tons of metal for recycling		22,174		194,240	772,602	34.8
Lewiston	0	724	17,654			17,559 (5 year average)		608,370	608,370	35
Waste Management / Crossroads	68,307	73,780	97,199	Also received 142 tons of clean dirt utilized as ADC; also, 76,250 tons of Special Waste were utilized as ADC		255,873		1,498,912	3,910,662	15.3
Juniper Ridge	94,907	369,069	173,158	Includes 235,546 tons of waste utilized as ADC; special waste includes 101,276 tons MSW incinerator ash		586,775		1,300,000	5,280,000	9.0
MidCoast Solid Waste	0	2,760	0			4,560		10,400	10,400	2.3
Rockland	0	16,553	3231			53,300		212,000	212,000	4.0
Totals	238,518	466,442	348,597	Overall total = 1,053,557						--

Table 7 - 2012 Waste Handling by Maine Waste-to-Energy Incinerators											
FACILITY	**Municipal MSW received**	**Commercial MSW received**	**Spot market MSW received**	**Other waste received**	**Total waste received**	**Waste shipped as bypass**	**Front end process residue produced**	**Metals recovered**	**MSW combusted**	**Ash produced**	**MSW destroyed through combustion**
Maine Energy	51,944	178,674	0	9,498	240,116	1,883	37,453	5,068	186,214	45,363	140,851
Ecomaine	62,934	68,822	44,306	0	176,062	1,120	**0**	11,251	163,691	45,945	117,746
Mid Maine Waste Action Corp	36,995	14,014	22,639	0	73,648	11,479	**0**	1,902	60,267	17,421	42,846
Penobscot Energy Recovery Corp.	193,992	100,307	17,332	578	312,209	44	56,692	8,708	246,187	55,880	190,307
TOTALS	**345,865**	**361,817**	**84,277**	**10,076**	**802,035**	**14,526**	**94,145**	**26,929**	**656,359**	**164,609**	**491,750**
	Total MSW received = 791,959				*percent of total*	*1.81%*	*11.74%*	*3.36%*	*81.84%*	*20.52%*	*61.31%*

All amounts are in TONS

Other waste includes wood chips and special wastes - assume 100% destroyed through incineration

Bypass includes non-processible and bulky waste

Ecomaine municipal MSW received was 63,743; 809 tons temporarily landfilled for recovery & burning as needed to operate boiler at maximum efficiency

Maine Energy FEPR amount includes 1007 tons of RDF used as absorbent for clean up

MSW combusted = Total waste received – (other waste received + waste shipped as bypass + FEPR produced + metals recovered)

Components of a municipal solid waste (MSW) management system include collection, transportation, facility operations, marketing of recyclables, and final disposal. 38 MRSA §1305 states that each municipality in Maine is responsible for providing for "solid waste disposal services for domestic and commercial solid waste generated within the municipality." This allows each municipality local control to determine the management system it will use to fulfill this responsibility, including how much of the system will be publically or privately owned and/or operated, and how the system is funded.

The overall cost of MSW management for a municipality and its residents is determined by the amount generated and disposed, the disposal fee, operational and transportation costs, and the cost of or revenue from recycled materials.

Collection

Options for collecting MSW from residences for transport to either a transfer station or disposal facility include: drop off (self-haul by residents), curbside collection by private haulers contracted by individual households, curbside collection by a private hauler(s) contracted by the municipality, and municipally-provided curbside collection. The latter two options result in much more efficient collection than the first two, which involve multiple vehicles engaged in overlapping trips with less waste transported for each mile travelled.

Municipalities that contract for or provide curbside collection can set operational requirements to realize the overall cost savings achieved by such efficiencies. Taking responsibility for collection of MSW from households also enables municipalities to transition to management strategies proven to decrease disposal rates and increase recycling and composting of organics. Such strategies include pay-as-you-throw for disposal, and more frequent collection of compostable organics and recyclables and less frequent collection of trash for disposal. Along with savings realized through transportation efficiencies, additional reductions in waste management costs can be realized where disposal tipping fees are greater than fees for the management of recyclables and compostable organics.

Transportation

Transportation costs can be consistently expressed as the dollar amount per ton per mile. As part of a recent regional solid waste management planning initiative, the MidCoast Economic Development District (MCEDD) determined that MSW transportation costs for 11 different facilities ranged from $2.36/ton/mile to $5.46/ton/mile, with smaller facilities having relatively higher costs.

Disposal

The management system costs determined by the final disposal location include disposal (tipping) fees and transportation costs.

Facilities offering in-state disposal and recent disposal fees include:

Disposal Site	Location	2012 MSW Disposal Fee
Bath Landfill	Bath	$75-$105/ton
Brunswick Landfill	Brunswick	$80/ton
Ecomaine Incinerator	Portland	$88-$110/ton
Hatch Hill Landfill	Augusta	$62-70/ton
MMWAC Incinerator	Auburn	$70-$83/ton
PERC Incinerator	Orrington	$51-$54/ton (after rebate)
Presque Isle Landfill	Presque Isle	$112-$150/ton
Tri-Community Landfill	Fort Fairfield	$85/ton
Crossroads Landfill	Norridgewock	$60/ton

Tipping fees change over time and may be dependent on the waste volume, type and whether the waste is residential or commercial. Towns that are on or near the state borders may want to consider disposal facilities outside the state. Out of state disposal facilities that are used by some Maine towns include: Cogerno Landfill, Rivière-Verte, NB; Southwest Landfill, Lawrence Station, NB; Mt. Carberry, Success, NH; and Waste Management's Turnkey Landfill, Rochester, NH.

Recycling

Recycling programs vary by municipality but contain similar components: separation, collection, processing and marketing. The generator of municipal solid waste makes a conscious decision to separate from their trash those materials and products that are accepted by the local recycling program. Once separated from the trash, the recyclables are provided to the recycling program, and that is where a significant difference can exist. For communities with curbside collection, many have switched from a program where residents placed separated recyclables at the curb to a 'single stream' program where all recyclables are placed curbside in a single container, a more efficient collection system, reducing collection costs and encouraging increased participation in the recycling program. These co-mingled recyclables are then transported to a materials recovery facility (MRF) where sorting of the recyclables occurs, and then the recyclables are processed and marketed. Many other communities still collect separated recyclables at the curb or accept them at their drop-off recycling center where the materials are processed and marketed.

The single-stream recycling programs greatly reduce the collection costs of recyclables but require capital intensive sorting systems. The costs for curbside collection are typically absorbed by the municipality, which then is responsible for delivering the recyclables to a MRF that it either is a part owner of or contracts for its use. Costs at a MRF are typically covered by the value of recyclables, but there is often a recyclable's value point achieved where a municipality may receive a portion of the value in return, or should the recyclable's value point decrease, the municipality may have to pay a fee for the processing and marketing of its recyclables. Actual MRF expenses vary by facility, but operationally, costs per ton of recyclable received and processed ranges from $55 to $75 per ton for the single stream recyclables, with that cost being covered by the value received from the sale of the products.

In a program where residents drop off their separated recyclables, recycling center staff process and market the recyclables. Little sorting of recyclables is necessary. The costs are primarily labor and equipment but the recycling program receives the value of the recyclables it processes. The costs for these programs vary as well, and may range from $40 to $90 per ton, or higher, depending upon the

size of the operation, the types and amounts of recyclables accepted, and equipment used for processing. The values received for recyclables vary [see excerpt from the Maine Resource Recovery Association (MMR) monthly markets report below], but in many cases reduce the net cost of managing the recycling program down towards zero. The differences here are that the collection costs are borne by the resident and the value of the recyclables is received by the municipality.

September 2013 MRRA Recycling Markets Report

Prices have continued to bounce around a narrow range with OCC up $10 the most significant change. Economic weakness continues and new uncertainty in the Middle East makes markets nervous. There does not appear to be any impetus to move prices higher at this time.

All prices are net to you and subject to changing market conditions.

	Sept '13	June-July '13
OCC	$115-120	$105-110
NEWS #8	$65	$65
Mixed Paper	$13-37	$35
SOW	$150	$140
HDPE #2 Natural	$674	$634
HDPE #2 Z (Mixed)	$304	$414
HDPE #2 Colored	$294	$354
Plastics #1,3-7 no #2	$0 to -$100	-$80 to -$100
PET #1 (full load of UBC quality)	$454	$534
Tin Cans (p/u - varies w/ freight)	$150	$157
Scrap Metal (p/u - varies w/ freight)	$70-145	$50-130
Tires (negative)	-$65	-$65
MRRA net avg. paid prior month (picked up)	$103	$107
ecomaine single stream (delivered)	-$10	$0

When comparing recycling options and value against the costs of disposal, communities may identify the tipping fee charged and not include the collection, consolidation and/or hauling fees in its disposal costs. Recycling programs are typically more closely monitored for costs, from collection to separation to processing, but the value of recyclables may be not included since that income often goes into the municipality's general fund, and not towards the recycling program.

Composting

Many Maine families utilize a back yard composting system for their organics, which may include leaf and yard trimmings as well as kitchen scraps. This type of system keeps organics out of the waste stream and creates a beneficial product for home use. Backyard composting is a very efficient way to manage organics and reduce dependency upon disposal options.

Over eighty municipalities provide a leaf and yard trimmings compost facility for their residents to utilize, as part of a larger program to reduce the amount of materials being discarded and at the same time generate a product that can be used by residents and the municipality. Leaf and yard trimmings programs are a low operational/maintenance program that can easily divert ten percent or more of the community's waste stream from disposal at a fairly low cost. Composting pads may be constructed of gravel, and the compost piles only need to be turned four times a year. Most programs turn the piles more frequently, which can result in more rapid decomposition of the materials and a better product. These types of composting programs can operate for $25 to $40 per ton and are often welcomed by residents. Most programs do not charge for the finished compost or may charge a nominal fee to assist with the program's costs. These programs support the diversion of waste while keeping the value of the compost product local.

Some municipal composting programs are beginning to accept food scraps from residents, institutions and businesses, which will further reduce the amount of organic residuals sent off for disposal. Composting operations utilizing food scraps require more attention, which may increase facility management costs, but can produce a higher quality compost for community participants. One of the challenges with accepting food scraps is the logistics of delivery of the food scraps from generators to the composting facility.

Since issuance of the previous State plan, several anaerobic digesters that process food scraps commenced operation in Maine. While the primary organic utilized in these digesters is manure, adding food scraps can have a positive effect on the unit's operation. There are logistical challenges with identifying food scrap generators and securing a hauler for delivering those scraps to the anaerobic digester, where they can be mixed with the manure to generate methane gas, which is then combusted to produce electricity.

Appendix G - Consolidation of ownership in the disposal, collection, recycling & hauling of solid waste

The Waste Generation and Disposal Capacity Report, for even-numbered years, is to include an analysis of consolidation in the ownership of the collection, recycling, hauling, and disposal sectors. This is performed to review Maine's solid waste industry for possible undue consolidation and the potential for unfavorable impacts on competition. The Department examines these industry sections to look for conditions that may either create a decrease in services or a monopolistic situation.

For 2012, Maine's solid waste industry was a mix of public and private investments and services that handled nearly 5,000 tons of materials each day. A review of that system and its components shows that the interrelated services of collection and hauling of recyclables and trash, and the processing or disposal of those materials, were provided in a consistent fashion, responding to Maine's solid waste management needs.

Disposal Facilities

During 2012, there was one change in the ownership/operation of a disposal facility, the Maine Energy Recovery Company (MERC), a waste-to-energy (WTE) incinerator. Located in Biddeford, MERC ceased operation the end of December under an agreement with the City of Biddeford. Subsequent to the previous review of consolidation in the waste management industry provided in the 2012 report, the Town of Greenville closed its landfill in 2011.

Collection and Hauling Services

During 2012, no substantial change in the ownership or operation of the many collection and hauling companies servicing residents, businesses, and municipalities was identified. There has been an increase in the 'partnering' or 'sharing of equipment/services' within the hauling sector, where one company contracts with another to provide collection, hauling or equipment services in the hiring company's stead. While these arrangements are typical, it will be an activity that the Department will monitor in the coming years, from the perspective of a potential shift in market share.

Recycling Services

In 2012, both processors and haulers continued promoting their offerings of the 'single stream' recycling collection strategy, also known as 'single sort' or 'Zero Sort®' services, where residents are able to place all of their recyclables into a single container for collection. This single container is then collected, delivered to a processing facility, and the material sorted into commodities and marketed. *Ecomaine*, a non-profit waste management company owned and operated by 21 municipalities in Southern Maine, established a single sort recycling program in 2007. FCR Goodman and Pine Tree Waste, divisions of Casella Waste Systems, Inc. offer a single stream recycling collection service through their program known as Zero Sort®. The collected recyclables are consolidated and shipped to either of the company's two processing facilities in Auburn, Massachusetts and Charleston, Massachusetts. As of this date, Casella is planning on constructing a recyclables processing facility in Lewiston.

Report to the Joint Standing Committee on the Environment and Natural Resources

Annual Product Stewardship Report

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I. Introduction

This is a report on the current implementation of product stewardship laws in the State of Maine, and opportunities for new product stewardship initiatives and improvements to existing programs to help achieve Maine's waste reduction and recycling goals. Product stewardship is a policy approach that can be used by governments and businesses to minimize the negative impacts of products and packaging throughout their lifecycle. Manufacturers (a.k.a. producers) have the greatest ability to affect the life-cycle impacts of products, with distributors, retailers and consumers also having a role. Extended producer responsibility (EPR) is the term used to describe laws that mandate responsiblities for manufacturers in the end-of-life managment of their products.

Maine currently has 9 laws related to the end-of-life management of specific consumer products that may be considered to be product stewardship laws. Additionally, in 2009 Maine enacted 38 M.R. S. Chapter 18, *Product Stewardship*, which sets a framework of elements to be included in new product stewardship programs (as well as the requirements for this annual report to the Joint Standing Committee on the Environment and Natural Resources). The Department is recommending statutory changes to the *Product Stewardship* framework law and to 4 of the product-specific laws to improve program performance and/or create efficiencies in implementation:

- **Framework law.** 38 M.R.S. Chapter 18, Maine's *Product Stewardship* "framework law" delineates required components for new EPR programs at *38 M.R.S. § 1776, Product Stewardship Program Requirements*. Based on Maine's experience in implementing its great variety of EPR laws, it is now apparent the framework law does not include adequate provisions to ensure implementation of effective programs. The department is proposing additions to the framework law to address these deficiencies.

- **Mercury lamps**. 38 M.R.S. § 1672, Maine's *Mercury-added lamps* law, requires manufacturers to establish and operate a recycling program for mercury-added lamps (fluorescents and HIDs) generated by households (see section 4 of the law). This law was enacted prior to the program component requirements in the *Product Stewardship* framework law. The resulting program has consistently underperformed, with recycling rates never exceeding 13%. Revising this law to address all required components for new product stewardship programs will help drive better program performance.

- **Beverage containers**. Maine's Bottle Bill, 38 M.R.S. Chapter 33, *Manufacturers, Distributors, and Dealers of Beverage Containers*, (originally enacted in Title 22 in 1976) establishes responsibilities for the collection and recycling of most plastic, metal and glass beverage containers sold in the state. During 2018, the Legislature's Office of Program Evaluation and Government Accountability (OPEGA) completed a review of this program. The report resulting from this review (http://legislature.maine.gov/doc/2316) includes a number of recommendations requiring legislative consideration. These include: comprehensive data reporting to assess program performance and inform policymaking; clarification of BABLO's commingling status and expectations for unredeemed deposits; opportunities to improve program design; and clarification of the intended benefits of commingling and updates to maximize its impact. The

Department is recommending changes to address many of the issues identified in the OPEGA report.

- **Dry-cell mercuric oxide, rechargeable nickel-cadmium, and rechargeable sealed lead acid batteries**. 38 M.R.S. § 2165, *Regulation of certain dry-cell batteries* (enacted in 1991) requires manufacturers of certain battery types to provide a system for the recycling of their batteries from certain users. The Department recommends that this law be repealed and replaced with an EPR law covering all consumer battery types.

- **Cellular telephones**. 38 M.R.S. § 2143 Maine's Cellular telephone recycling law requires retailers to accept, at no cost, used cell phones at retail locations, and annual reporting by cellular telephone service providers on their recycling efforts in Maine. The Department recommends repeal of the reporting requirement as the data reported reflects only a portion of cell phone recycling so is not useful for assessing program performance.

The department is not recommending statutory changes to these other currently-implemented programs:

- **Electronic waste (e-waste)**. 38 M.R.S. § 1610, Maine's *Electronic Waste* law, was initially enacted in 2003 to manage TVs and other electronics with video displays greater than 4" diagonally from households only. It was subsequently amended to add game consoles and desktop printers and to manage the covered electronics from small businesses (100 or fewer employees) and K-12 schools.

- **Mercury auto-switches**. 38 M.R.S. § 1665-A, Maine's *Motor Vehicle Components* law, set up a system by-which motor vehicle manufacturers pay for the collection and proper disposal of mercury auto-switches as the vehicles containing them are removed from service.

- **Mercury thermostats**. 38 M.R.S. § 1665-B, Maine's *Mercury-added Thermostats* law requires that manufacturers that sold mercury-added thermostats into the state pay for the collection and disposal of mercury-added thermostats and to provide a financial incentive with a minimum value of $5 for the return of each mercury-added thermostat to an established recycling collection point.

- **Architectural paint**. 38 M.R.S. § 2144, Maine's *Stewardship Program for Architectural Paint* law requires that manufacturers establish and maintain a statewide system to collect, transport, recycle and process post-consumer paint.

- **Plastic bags.** 38 M.R.S. § 1605, *Plastic bags; recycling* law requires retailers that use plastic bags to have a receptacle within 20 feet of their store entrance to collect used plastic bags and to ensure the bags are collected.

Additionally, the report includes discussion of other products that may warrant future legislative consideration as candidates for new EPR programs, including:

- Packaging
- Pharmaceuticals
- Mattresses
- Carpet
- Solar panels

II. Background

Product stewardship is a policy approach that can be used by governments and businesses to minimize the negative impacts of products throughout their lifecycle. Manufacturers (a.k.a. producers) have the greatest ability to affect the life-cycle impacts of products, with distributors, retailers and consumers also having a role. Extended producer responsibility (EPR) is the term used to describe laws that mandate responsiblities for manufacturers in the end-of-life managment of their products.

A. Basic components included in Maine's Framework law

38 M.R.S. § 1776, *Product Stewardship Program Requirements* delineates the basic components for new EPR programs. These include:

- Identification of participating entities, and their roles and responsibilities
- Identification of covered product(s)
- Convenient and adequate collection system, including no fee at collection
- Effective education and outreach
- A sales ban on products from non-compliant manufacturers
- Immunity from antitrust liability for participating manufacturers
- Requirements for the program plan, including management standards and submittal of the plan for review and approval by the Department
- Program performance goals
- Program performance monitoring and assessment
- A financing mechanism to fund "collection, transportation and reuse, recycling or disposition of the relevant product"
- A mechanism for amending the approved program

Based on the Department's experience with implementing EPR programs to date, a program plan designed only to meet the basic requirements in the *Product Stewardship* framework law will not be guaranteed to be successful, i.e., it has a good likelihood of not achieving substantial collection rates. Most notably, the *Product Stewardship* framework law does not include meaningful standards for program performance, any mechanism for the Department to require program improvements or improved program performance, nor any reporting or oversight agency review of annual program budgets.

B. Additional elements of successful EPR programs

Based on experience in Maine and elsewhere, there are certain elements that contribute to an EPR program achieving high rates of diversion from disposal. The following elements are key to achieving high collection rates but currently are not included in Maine's *Product Stewardship* framework law.

1) Minimum standards for producers' or stewardship organization staffing, e.g., a minimum ½-fulltime equivalent (FTE) to recruit, train and monitor collection sites. For example, the PaintCare program has employed 1-FTE to perform these functions for its program in Maine and Vermont since the inception of their program. This level of staffing has ensured that collection sites receive the support they need to safely and adequately implement the program as confirmed by Department staff field visits.

2) Adequate financing for implementation and operations, including funding for regulatory oversight. Payment into the system to finance end-of-life management must be sufficient to cover materials management costs, consumer and collection site education, a minimum ½-FTE per stewardship program assigned to implement the program in Maine, on-going program evaluation and reporting, government oversight, and any incentives for collection.

3) Minimum program standards for education and outreach to collection sites and to consumers, and on-going evaluation of the effectiveness of education and outreach efforts. No program can be successful without collection site staff and consumers knowing about the program and how it works. Staff turnover at collection sites (often retailers and/or solid waste facilities) is ongoing, as are changes in residents in Maine. Evaluation of education and outreach efforts identifies which initiatives are most effective, and where additional focus is needed. Manufacturers can use the information gained to achieve cost-effective continuous improvement in their programs.

4) Measurable, enforceable goals (e.g., recycling rate, consumer awareness, convenient collection), and defined consequences for non-compliance. When manufacturers are responsible for paying for the recycling of collected products, they have a disincentive to collect or to promote the existence or ease of use of a collection system. Minimum standards for locations of collection sites along with a ban on fees at collection are critical to counteracting the financial incentive manufacturers have to discourage consumer participation. Repercussions for insufficient performance or non-participation on the part of manufacturers must be practical to implement. The Department must have the authority to direct program changes if the program fails to make sufficient progress toward achieving program goals.

5) Financial incentives for collection site participation and for consumers to return products to collection sites. Successful programs provide an incentive for collection to either consumers or third-party collection agents or both. Collections in Maine's mercury thermostat recycling program increased significantly when the $5 incentive was implemented, and again when a $10 incentive was offered for a limited period of time. A similar jump in collections was

achieved in Maine's mercury auto switch recycling program when the $4 incentive to collection sites was implemented. Maine's Bottle Bill program consistently achieves the highest return rate, with consumers motivated by the deposit/return payment system.

III. Recommendations for changes to existing EPR laws

Based on reviews of Maine's 10 product stewardship laws, the performance of each of the implemented programs and the staffing resources needed to provide adequate oversight, the Department is recommending changes to 5 of these laws.

A. Framework law – 38 M.R.S. chapter 18

As discussed in section II.B above, there are significant deficiencies in the framework law that would allow for approval of a manufacturer program plan which would not result in an effective program. The framework law does not include adequate program performance standards and does not provide the department with the authority to require changes in programs that fail to achieve adequate progress toward the program goals. Legislation to address these deficiencies is included as Appendix A.

B. Mercury lamps – 38 M.R.S. § 1672

Program description: The manufacturer requirements for recycling of mercury-added lamps (fluorescent, neon, black lights, UV, and high intensity discharge - HID) from households are implemented by the National Electrical Manufacturers Association (NEMA) on behalf of the manufacturers. NEMA's program provides free containers, shipping and recycling services to voluntarily participating retail and municipal collection sites. The program also does some outreach to let consumers know about the program.

Figure 1:
NEMA's Household Mercury-added Lamp Recycling Rates

	# NEMA collection sites	# Lamps recycled by NEMA	# Lamps available for recycling	NEMA recycling rate
2011	149	6,634	688,000	0.96%
2012	263	50,492	708,889	7.12%
2013	293	97,743	844,576	11.57%
2014	300	109,337	1,042,750	10.49%
2015	307	135,035	1,127,500	12.00%
2016	270*	151,434	1,344,991	11.26%
2017	244*	181,255	1,456,902	12.44%
Total		**731,930**	**7,213,608**	**10.15%**

*Approximately 150 sites sent lamps for recycling in 2016 and 2017

Current performance: Through its product stewardship program, NEMA collected and recycled 181,255 mercury-added lamps out of the estimated 1,456,902 mercury-added lamps available for collection in Maine in 2017. The recycling rate, i.e., the percentage recycled of lamps estimated to be at end of life, has been consistently low for the duration of the program, with an average recycling rate of 10.15%[1].

NEMA's methodology to determine the number of lamps expiring each year utilizes national sales data and lamp life averages for HID, linear fluorescent and compact fluorescent lamps. This information provides a denominator used to calculate an overall recycling rate. NEMA does not provide the actual numerical data for these calculations, which could be used to calculate separate recycling rates for each type of lamp and determine if certain lamps are being recycled at lower rates than others, allowing for more targeted outreach. In addition, NEMA does not provide the Department with the estimated amounts of mercury recovered or available for recovery each year. Lamp mercury content varies significantly, ranging from 0.01 milligrams to 1,000 milligrams.

Figure 2: Amount of mercury collected by the NEMA program compared to that which was not collected

	Low end mercury estimates (lbs.)		**High end mercury estimates (lbs.)**	
Year	NEMA collections	Available to collect	NEMA collections	Available to collect
2015	3.03	25.22	10.27	85.55
2016	2.79	24.89	8.40	72.59
2017	3.54	29.11	10.72	88.16
Total	**9.36**	**79.22**	**29.39**	**246.30**

Lamp companies selling in Maine report data on their mercury per unit and total mercury amounts to the Interstate Mercury Education & Reduction Clearinghouse (IMERC). The IMERC database provides the best available data to estimate lamp mercury content, with ranges for average mercury content in lamps sold by type as well as the percent of lamps that contain a specified range of mercury. For example, 27 percent of fluorescent lamps contain more than 10 but fewer than 50 milligrams of mercury. This data allows the Department to calculate low and high end estimates of how much mercury is recovered. If one assumes that lamps are returned through the NEMA program in the percentages in which they are available in the waste stream, it is also possible to estimate potential mercury recovery. While the Department does not have data on the NEMA lamp collections by lamp type prior to 2015, recent data highlights the significant amount of mercury not being recovered from waste lamps.

NEMA has failed to consistently implement the approved plan or take timely actions to improve program performance as proposed in its annual reports. The Department has noted multiple instances of poorly handled program operations, characterized by a lack of communication with participating collection sites and the Department, a lack of effort to make any substantial program improvements in response to Department requests, and a marked lack of resource allocation to ensure the program functions successfully. The lamp law requires that NEMA provide "effective education and outreach, including, but not limited to, point-of-purchase signs and other materials provided to retail establishments without cost." Beginning in 2016, NEMA eliminated their budget allocation for staff, and in 2017 NEMA reduced "Program and Administration" costs by 43%. As the entity that must pay for each bulb recycled, NEMA has an economic disincentive to effectively

[1] If 2011 data is excluded due to lower collections during program implementation, the average recycling rate is 10.81%

advertise the recycling program. Recovery of mercury-added lamps could be increased through improved public education and outreach and through ensuring convenient collection.

Recommendations: Title 38 § 1672, Maine's *Mercury-added lamp* law, was passed prior to Maine's Product Stewardship Framework law and is, in many ways, inconsistent with the framework. This statute should be revised to better align with the Framework and with more recent, successful product stewardship programs implemented in Maine. Included as Appendix B is legislation that if enacted would accomplish the following:

1. Incorporate the standard definition of "covered entities" rather than limiting participation to households. All references limiting participation to "households" and "residents" would change to "covered entities" and the definition of "covered entities" consistent with that in §1672(1)(E).
2. Establish convenience standards with distribution goals to ensure access to collection sites in rural and urban geographic areas throughout the State.
3. Establish a minimum standard for producer or stewardship organization staffing of ½-FTE to ensure adequate personnel resources to recruit, train and provide on-going in-person technical assistance to collection sites.
4. Strengthen requirements for education and outreach.
5. Establish goals for consumer awareness of key program information.
6. Strengthen data requirements for annual reporting.

C. Consumer batteries – 38 M.R.S. § 2165

In 1991, Maine enacted Title 38 § 2165, *Regulation of certain dry cell batteries*, which requires manufacturers of nickel cadmium and small sealed lead acid batteries to provide recycling services for these batteries at no cost to government agencies, and industrial, communications and medical facilities. In response to this and similar laws enacted by other states in the early 1990's, U.S. battery manufacturers established the Rechargeable Battery Recycling Corporation (RBRC) in 1996. This program, now known as Call2Recycle, offered a free rechargeable battery recycling program to any interested business, government entity and retail location interested in acting as a collection location until mid-2017. Due to increases in "free riders", i.e., collection of batteries from primary (single-use) and rechargeable battery manufacturers that do not financially support Call2Recycle, Call2Recycle now limits participation in its free rechargeable battery recycling program to municipal collection sites and businesses only as required by state laws. The Call2Recycle program is also incurring new operational costs for redesigning their collection boxes with fire retarding properties and for training of collection site staff in management to prevent fires caused by improper management of lithium and lithium-ion batteries. Note that Maine's current rechargeable battery recycling law does not include lithium or lithium-ion batteries, new chemistries placed into the market subsequent to the law's enactment.

Lithium ion batteries improperly disposed of in the household trash or recycling pose a significant fire risk. The batteries are prone to short circuit and explode if dropped, punctured, or dented, any of which can easily happen during collection or processing at a traditional waste and recycling

facility[2]. This danger has been made evident by the increasing number of Materials Recovery Facility (MRF) fires in recent years attributed to lithium ion batteries, including two at ecomaine's Portland facility in 2017[3]. Lithium ion battery use is growing at a rate of 1.63 batteries per person, per year[4]. Estimated costs to a MRF from such a fire depends on damages, but some have reported costs ranging from $8 to $10 million from a single lithium ion battery fire[5].

In 2016, Senator Saviello introduced an amendment to LD 1578, *An Act to Update Maine's Solid Waste Management Laws*, to establish an EPR program for small primary and rechargeable batteries of all chemistries. This proposal was developed by the battery industry[6], and supported by Call2Recycle, Duracell, and other representatives of battery manufacturers. Requiring all manufacturers of covered batteries to participate in a stewardship program would level the playing field by making all suppliers pay their fair share for the recycling of collected batteries. LD 1578 included several other sections affecting other aspects of solid waste management in Maine, and ultimately did not pass the Legislature.

Consumer batteries are a growing problem in Maine's waste stream. The battery industry estimates more than 28 million consumer batteries (single-use and rechargeable) are sold in Maine annually. Maine consumers frequently contact DEP staff asking how they can recycle their batteries. Fires caused by batteries in the waste stream are increasing, and the risk of fires continues to increase as the number of batteries discarded by consumers increases. For these reasons, the Department is proposing the Legislature consider the draft legislation included as Appendix C to establish an expanded product stewardship program for small primary and rechargeable batteries. Along with addressing the elements required in Maine's *Product Stewardship* framework law, this draft includes provisions from the industry-developed model presented in Sen. Saviello's 2016 amendment to LD 1578 as amended through the committee process as well as provisions added to address Maine retailers' concerns with the original proposal. The Department estimates that 0.5 new FTE would be needed to implement the proposed expanded program.

D. Container redemption ("Bottle bill") law – 38 M.R.S. chapter 33

Maine's *Manufacturers, Distributors, and Dealers of Beverage Containers*, a.k.a. the "Bottle Bill" law was enacted in Title 22 in 1976, with the resulting beverage container redemption program initially implemented in 1978 under the purview of the Department of Agriculture. The Legislature transferred responsibility for the program to the Department effective November 1, 2015. The Bottle Bill has resulted in a very successful collection program. Estimated recovery rates fall in the

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[2] See EPA: *Lithium Ion batteries in the solid waste system.* Michael Timpane, RRS.
[3] See Kennebec Journal: *Ecomaine fire shows why putting lithium-ion batteries in trash is a really bad idea.* December 21, 2017
[4] Ibid.
[5] See *How industry pros deal with fires at MRFs*, December 22, 2016: https://www.waste360.com/mrfs/how-industry-pros-deal-fires-mrfs and *Battery fires an 'existential' threat for industry*, April 10, 2018: https://resource-recycling.com/recycling/2018/04/10/battery-fires-an-existential-threat-for-industry/
[6] See *Testimony of Richard Abramowitz, Director of Communications and Government Relations, Duracell Before the Joint Standing Committee on Environment and Natural Resources,* February 17, 2016.

75 to 87% range[7] which, when compared to the national, overall recycling rate of 34%, is outstanding.

In May 2018, the Office of Program Evaluation and Government Accountability (OPEGA) completed a review of and report on the Bottle Bill program. The purpose of the review as stated in the report was to assess: "whether the program was operating as intended; the costs and offsets of the program for both the State and the initiators of deposit (IoDs); the degree to which risks of non-compliance, fraud, and abuse were mitigated in the program; and how the program compared to the management of beverage containers in other states."

The OPEGA report includes several recommendations for departmental and Legislative consideration to improve program implementation. In response to the recommendation that the department can implement without legislative action (Recommendation #3), the department has refined and documented its procedures for removing non-compliant products from sale and completed work with Maine Revenue Services (MRS) to better integrate the agencies' responses to instances of non-compliance. Additionally, in 2018 the Department focused on other initiatives to improve administrative processes, including the continued development and implementation of an on-line portal for manufacturers and distributors to register the labels on all products subject to the law. The information collected through product registrations is critical to apportioning responsibilities for recycling as well as handling fee and deposits payments to redemption centers.

Recommendation #1 in the OPEGA report provides the Department with responsibility for initiating legislation to require data reporting by all IoDs and by third party pick-up agents. Quality data can help improve effectiveness and efficiency in program administration, allow accurate quantitative assessment of program outcomes, and inform policymakers when making decisions about the program. Appendix D contains proposed legislation which would require IoDs to report the number of non-refillable beverage containers sold in the state and the number of non-refillable beverage containers returned by redemption value. Along with proposing new reporting requirements, this draft legislation also seeks to respond to additional issues noted in the OPEGA report and by the department during its 3 years of program oversight as follows:

- Reporting by third party pick-up agents on redemptions by IoD so that the department and MRS can verify self-reported redemptions by IoDs (see OPEGA Recommendation #1). This issue may be addressed by enacting a new subparagraph, § 3113 sub-6, as shown in Appendix D.

- The Bureau of Alcoholic Beverages and Lottery Operations (BABLO) is the IoD for all spirits sold in Maine, efficiently handing all spirits containers collected by redemption centers as a commingled group. However, the statutory criteria for approval inappropriately precludes BABLO from being categorized as a qualified commingling group (see OPEGA Recommendation #4). This issue may be addressed by enactment of the changes proposed in the last sentence of paragraph § 3106.7(C) as shown in Appendix D.

[7] Office of Program Evaluation and Government Accountability Report No. SR-BOTTLE -17, *Maine's Beverage Container Redemption Program–Lack of Data Hinders Evaluation of Program and Alternatives; Program Design Not Fully Aligned with Intended Goals; Compliance, Program Administration, and Commingling Issues Noted*, May 2018 (http://legislature.maine.gov/doc/2316)

- OPEGA identified several aspects of the law that impact redemption centers and/or retailers and that are outdated or of limited relevance to current program operations (see OPEGA Recommendation #5).

  When the Bottle Bill law was enacted, it required all beverage retailers (a.k.a. "dealers") to allow customers to redeem beverage containers of the brands, types and sizes sold by that retailer. Since that time, a network of redemption centers independent of retailers has developed across the state to manage all brands, types and sizes of containers. To reflect this reality and prevent circumvention of the limit to the number of redemption centers established in Title 38 § 3113 sub- 3, the Department is proposing to eliminate the required redemption responsibility for retailers with less than 5000 square feet of retail space as well as the limitations on the kind, size and brand of containers that must be accepted by retailers with more than 5000 square feet of retail space, and also to eliminate the exemption for food establishments from the limit on the number of redemption centers (which will be moot if the 5000 square foot exemption is enacted) [see proposed amendments to § 3106 sub- 1 and sub- 2, and § 3113(4)(B) respectively, as shown in Appendix D].

  Removal of provisions of the law which indicate redemption centers must have agreements to provide redemption services for dealers and only need accept containers of the kind, size and brand sold by those dealers eliminates the administrative burden on redemption centers and retailers of maintaining written agreements. It also addresses the issue of limitations on where consumers can redeem containers by eliminating these limitations. The end result of enacting these proposed changes will be that establishments that sell beverages but have less than 5000 square feet of retail space will not be required to redeem containers. Additionally, stand-alone redemption centers and dealers with 5000 or more square feet of retail space without an agreement with a stand-alone redemption center within 1 mile will be required to redeem all beverage containers included in the deposit/redemption program.

- The OPEGA report identifies on-going concerns by Bottle Bill program participants that the Department does not have a formal role or authority to impose consequences on redemption centers that routinely present bags holding fewer than the required number of containers to pick-up agents. In response to OPEGA's Recommendation #7, included in the proposed legislation in Appendix D, the Department is proposing an additional subsection in Title 38 § 3109 that adds an affirmative responsibility for redemption centers to package containers for pick up in a manner that ensures accurate unit counts of eligible containers. In addition, the Department is proposing to change the criteria in Title 38 § 3113 sub-2 from criteria for rule-making to criteria for licensing. These changes will enable the Department to implement standard compliance and enforcement procedures to check unit counts of containers readied for pick-up by redemption centers, and to refuse to renew the license of a redemption center based on its record of compliance.

- OPEGA's Recommendation #8 describes how the current commingling provisions in statute have become too restrictive to meet their original intent of minimizing the number of sorts that must be implemented by redemption centers. Due to the explosion of sizes and

container types for beverages other than soda, beer, wine, and water, redemption centers must employ significant labor and maintain large storage areas to properly sort and store containers that are not included in commingling groups. To fully realize the efficiency benefits of commingling, the department recommends that the Legislature provide all IoDs with the opportunity to become part of a "catch-all" commingling group administered by a third party as delineated in proposed § 3107 sub-5 included in Appendix D. The third-party program could allow redemption centers to commingle containers by material type and allow assignment of responsibility by share of marketed weight, thus eliminating scores of sorts. In this system, manufacturers would pay redemption centers for an assigned portion of that container type proportional to their share of sales based on container weights. Such a system will significantly reduce redemption center costs for labor, as well as costs associated with the delay in receiving deposit reimbursements from the IoDs that results from the need to store containers of non-commingled brands for long lengths of time after paying out the deposits to consumers.

It is important to note that under the current law, only IoDs that do not participate in a commingling group are required to remit unclaimed deposits to the State. Recommendation #4 includes the suggestion that the Legislature consider amending the statute "to specify how unredeemed deposit funds should be processed and used by the State." This recommendation will become moot if the recommendation to create a "catch-all" commingling group is enacted and all IoDs opt to participate in a commingling group.

- Additionally, this draft legislation includes amendments to consolidate the rule-making provisions, to integrate the redemption center licensing fees into Title 38 subchapter 2, *Maine Environmental Protection Fund*, and to set the licensing fee at $100 consistent with the standards Title 38 § 352, *Fees* (see Section 1 of the proposed legislation in Appendix D). The current annual licensing fee is $50, which is not adequate to cover costs incurred by the department for application review and processing.

The department also recommends that the Legislature review Recommendation #6 in the OPEGA report to determine how the Legislature and the department should proceed to address the issues of program scope, deposit value, performance measurement, final disposition of redeemed materials and maximizing commodity values as identified by OPEGA.

E. Cell phones - 38 M.R.S. § 2143

Maine's cellular telephone recycling law (38 M.R.S. § 2143) requires retailers to accept, at no cost, used cell phones at retail locations, and annual reporting by cellular telephone service providers (i.e., carriers including Verizon, T-Mobile, USCellular, AT&T) on their recycling efforts in Maine. The Department recommends repeal of the reporting requirement as it does not provide useful data (see Appendix E for proposed statutory change). Many consumers return cell phones to entities that pay for them, so the data from the service providers cannot be used to assess program performance or determine a recycling rate. Also, each of the carriers provides information to their customers on the recycling programs they offer, often in support of social welfare causes. This information is readily available on their web sites.

IV. Candidate products for new EPR programs

Maine's Product Stewardship Framework law identifies the following criteria for evaluating product stewardship as a mechanism to facilitate recycling:

A. The product or product category is found to contain toxics that pose the risk of an adverse impact to the environment or public health and safety;

B. A product stewardship program for the product will increase the recovery of materials for reuse and recycling;

C. A product stewardship program will reduce the costs of waste management to local governments and taxpayers;

D. There is success in collecting and processing similar products in programs in other states or countries; and

E. Existing voluntary product stewardship programs for the product in the State are not effective in achieving the policy of this chapter.

Recycling is defined as "the transforming or remanufacturing of an unwanted product or the unwanted product's components and by-products into usable or marketable materials. 'Recycling' does not include landfill disposal, incineration or energy recovery or energy generation by means of combusting unwanted products, components and by-products with or without other waste."

Included here are several products that may be good candidates for EPR programs in Maine in the future. Some of these are products that previously have been the subject of some discussion in Maine, and EPR programs have been established for each of these products in other jurisdictions.

A. Product stewardship for packaging

A large portion of the current municipal waste stream is comprised of various types of consumer packaging. Much of it is not recyclable. Packaging that is readily recyclable has historically been managed to some extent through Maine's existing recycling system, which is a combination of public and private enterprises. However, shifts in international markets for recyclables during 2018 have shown the vulnerability of these programs to commodity price changes and the need for investment in recycling infrastructure. Stable funding provided by extended producer responsibility can prevent high municipal costs and diversion of these resources to disposal when material values drop, as occurred during 2018. [8] An EPR program for packaging also can provide incentives for producers to increase the recyclability of their packaging and to use packaging that is more valuable at end of

[8] The average value of a ton of single stream recycling in Maine, as tracked by the Maine Resource Recovery Association, fluctuated between a value of $20/ton to a cost of $30/ton between 2007 and 2017 before dropping to cost of more than $100/ton in 2018.

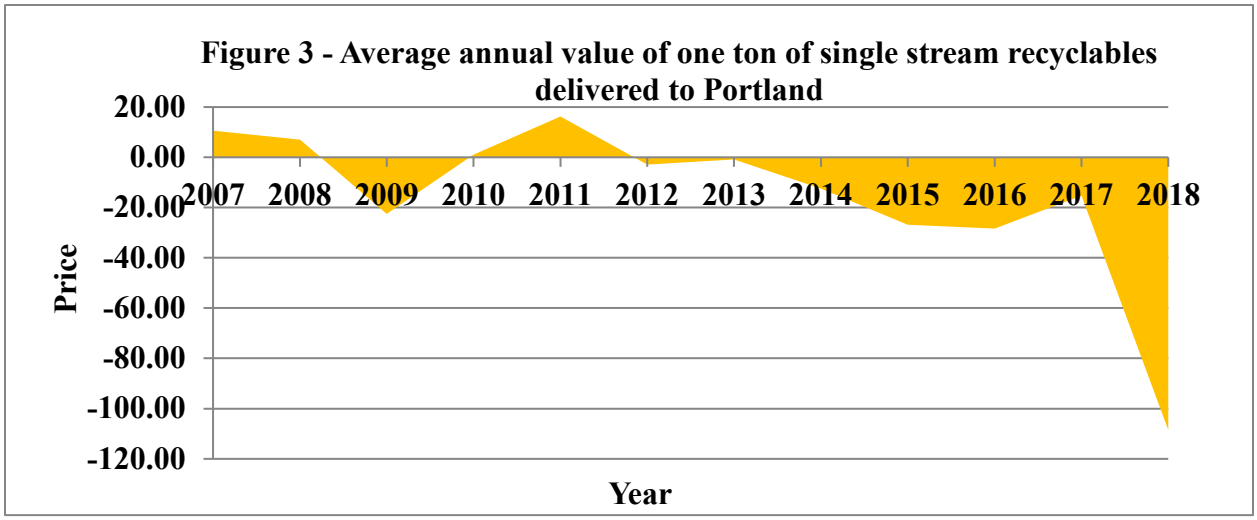
life, galvanize investment in Maine's recycling infrastructure, and relieve municipalities of much of the financial burden of dealing with this waste stream.

1) Packaging meets four candidate criteria for stewardship program

Product stewardship for packaging meets four of the five criteria outlined in the Framework Law – all but criteria A, products containing toxics.[9]

Criteria B: Increase the recovery of materials. Alleviating economic pressure on municipalities would prevent moves away from recycling caused by market downturns like that experienced during 2018. In addition, the incentives provided by product stewardship can help change the make-up of this stream. Currently, much packaging is not readily recyclable and therefore is destined for disposal. Examples of packages that are not practical to recycle include plastic pouches, multilayered materials, and packages made from commonly recycled materials like PET that can't be processed by the recycling system because of issues with their wrappers or shapes and sizes[10]. To support the development of a sustainable "circular economy", there is a need to design packaging with recycling in mind.[11]

Criteria C: Reduce the costs of waste management to local governments and taxpayers. Packaging is a large material stream, only part of which is readily recyclable. Packaging that is not readily recyclable is being disposed of as municipal solid waste. The portion of the stream that is readily recyclable can also be problematic. Although recycling of some packaging streams has long been promoted as a way to lessen the burden of waste management costs on municipalities or even as a money maker, recycling costs for packaging rose sharply in 2018 when China stopped accepting



[9] Nineteen states, including Maine, have laws governing toxics in packaging. For more information, see the Toxics in Packaging Clearinghouse website at https://toxicsinpackaging.org/ and Title 32 Chapter 26-A, Reduction of Toxics in Packaging.

[10] "APR Design Guide for Plastics Recyclability", The Association of Plastics Recyclers, https://plasticsrecycling.org/apr-design-guide/apr-design-guide-home

[11] *The New Plastics Economy – Catalysing Action*, Ellen Macarthur Foundation, 2017 https://www.ellenmacarthurfoundation.org/assets/downloads/New-Plastics-Economy_Catalysing-Action_13-1-17.pdf

bales of plastic and fiber recyclables due to contamination. Municipal transfer stations and the companies that manage these materials found themselves unable to move some materials or only able to do so at a cost. Single-stream programs increased their fees, [12] while source separated programs stopped recycling certain material types. The lack of data on packaging generation and municipal recycling and disposal costs makes price estimates of the amount of municipal resources spent handling packaging difficult to come by. That said, triangulating a variety of imperfect estimates can provide a rough idea of the amount of money spent.

- Using Maine tons of municipal solid waste generated in 2017[13] and applying percentages of packaging materials found in the University of Maine's 2011 study[14] characterizing the makeup of Maine municipal solid waste provides an estimate of the amount of packaging disposed of as waste in 2017. This method yields an estimated 177,000 tons of material. If Maine municipalities spent an average of $90/ton[15] to transport and dispose of this material during 2018, they spent approximately $16 million. This $16 million estimate understates the actual cost to municipalities of managing packaging because it does not include the cost of separated recyclables, i.e., it is only the cost of managing packaging material that is thrown out with household trash.

- Using statistics on average per capita generation of packaging from Europe[16] and subtracting the amount of material handled through Maine's Bottle Bill[17] provides an estimate of approximately 194,000 tons of packaging handled through Maine municipalities annually. Once again, assuming Maine municipalities paid $90/ton to handle packaging either as trash or as recycling

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[12] Data for Figure 3 courtesy of Victor Horton, Maine Resource Recovery Association, October 29, 2018, "Single stream spot market pricing paid in Maine delivered to Portland; for contract pricing add $2-5/ton"

[13] Maine Department of Environmental Protection, "Maine Solid Waste Generation and Disposal Capacity Report for Calendar Year 2017", January 2019, shows 721,646 tons of municipal solid waste generate in Maine in 2017.

[14] Criner, George; Blackmer, Travis; "2011 Maine Residential Waste Characterization Study School of Economics Staff Paper #601", available here: https://umaine.edu/wp-content/uploads/sites/2/2017/04/2011-Maine-Residential-Waste-Characterization-Study.pdf, studied samples of municipal solid waste in Maine and identified the components, by material type. Using the total percentage of plastics other than "durable plastic items"; the percentages of "tin/steel containers", "redeemable aluminum beverage containers", "non-redeemable aluminum beverage containers" in the metals category; the total percentage of glass other than the "remainder/composite glass" and "flat glass"; and the percentages of "uncoated corrugated cardboard/kraft paper" and "remainder/composite paper", and half of the percentage of "other recyclable" paper, we obtained an estimate of the percentage of Maine's municipal waste stream composed of packaging waste of 24.5%.

[15] There is not good data to support this number; tonnages of packaging resulting from each method have been provided so that municipalities can easily adjust estimates to reflect their costs. The Maine Department of Environmental Protection, "Maine Solid Waste Generation and Disposal Capacity Report for Calendar Year 2017", January 2019, reports that tipping fees for municipal solid waste were between $40 and $85 during 2017, which does not include the cost of transportation. Figure 3 of this report shows the average cost of single stream recycling delivered to Portland at over $100/ton in 2018.

[16] Eurostat, "Packaging Waste Statistics", https://ec.europa.eu/eurostat/statistics-explained/index.php/Packaging_waste_statistics show the average European generated 166.3 kg or 366.6 pounds of packaging in 2015.

[17] 51,808 tons of material or 77.3 pounds per person were recycled through Maine's Bottle Bill program in 2017, which would leave approximately 290 pounds of packaging per person handled through the municipal waste stream.

in 2018, the cost to Maine municipalities of managing packaging in 2018 was approximately $17.5 million.

- Using estimated costs in the Canadian province of Saskatchewan (which has 1.17 million people in 700 municipalities, 600 of which have fewer than 1000 residents), where the cost of handling packaging is around $14.5 million, annually[18] and prorating this cost for a population of 1.34 million yields an annual municipal cost of $16.6 million.

Criteria D: There has been success in other states or countries. Many European Union countries and five of Canada's provinces manage packaging through product stewardship programs. Years of successful implementation, per capita results, and municipal savings for each of the Canadian stewardship programs are presented below. Movement toward more sustainable packaging is hard to quantify based on available information, but there is an on-going pilot program in British Columbia testing the recyclability of flexible packaging collected at drop-off locations and there have been significant decreases in the use of plastic bags in Manitoba since the initiation of a government effort that has been facilitated by the Manitoba packaging stewardship organization.

Figure 4
Per capita results of Canada's five EPR for Packaging and Printed Paper Programs

PROVINCE	PROGRAM DURATION	PER CAPITA RESULTS	MUNI. SAVINGS	BOTTLE BILL MATERIAL*
Ontario	15 years	65 kg *recycled (2016)* **	Reimbursed 50% of recycling costs	Alcohol
Manitoba	9 years	71 kg collected (2017)	Reimbursed 80% of recycling costs	Beer
British Columbia	7 years	38 kg collected (2017)	Municipalities don't recycle	Non-milk
Quebec	5 years	93 kg collected (2017)	Reimbursed 100% of recycling costs	Beer and carbonated beverages
Saskatchewan	3 years	49 kg collected (2017)	Reimbursed 75% of recycling costs	Non-milk, non-nutritional supplements

*Bottle bill material is not collected through these programs so the breadth of a province's bottle bill influences the amount of material available for collection.
** Ontario's program reports on kg recycled per person, as opposed to kg collected; more material is collected than can be recycled. Ontario's most recent data is from 2016, not 2017.

Criteria E: Voluntary efforts are insufficient. Industry efforts to assist with the management of packaging include the Closed Loop Fund and The Recycling Partnership, which invest in recycling infrastructure and education at the national level. The city of Portland received a grant of $175,000 from The Recycling Partnership to help pay for new recycling carts in 2017.[19] The department is unaware of any other direct contributions by these organizations to recycling programs in Maine.

[18] Steven Dribnenki, Saskatchewan Recycling, November 28, 2018: Saskatchewan recently studied program costs and updated payments to municipalities, increasing them to $8.7 million, which covers approximately 60% of the cost of a "reasonably run" program.
[19] Harry, David, *The Forecaster*, "Portland set to roll out covered recycling carts", July 31,2017, http://www.theforecaster.net/portland-set-to-roll-out-covered-recycling-carts/

The Department estimates that 1 new FTE would be needed at the Department to oversee implementation of the program.

2) Key considerations in design of a packaging stewardship program

Maine's *Product Stewardship* framework law provides minimum requirements for new product stewardship programs. Review of the Canadian provinces' EPR programs for packaging reveals additional key aspects that should be considered when formulating legislation to establish a new packaging stewardship program. These include a) whether manufacturers are given complete financial and operational responsibility for establishing and maintaining recycling systems (full manufacturer responsibility) or share that responsibility with municipalities, and b) whether the enabling legislation includes incentives for the use of recyclable packaging and/or disincentives for the use of non-recyclable packaging.

a) Division of responsibilities between manufacturers and municipalities

Whether there is a division of responsibilities between municipalities and producers in packaging stewardship programs provides incentives for effective and efficient collection and recycling, streamlining of operations, and the free market economics of the recycling industry. Canada's existing product stewardship laws governing packaging differ in the level of financial and operational responsibility given to each group. For example, British Columbia assigns manufacturers full responsibility while Province Quebec implements a program of shared responsibility. If responsibilities are shared, legislation establishing the EPR system must delineate the division of financial and operational responsibilities.

Proponents of a system in which a producer organization has full financial and operational responsibility for recycling point to the opportunity for efficiencies that such a system provides. If one entity manages the recycling of all packaging (including control of the collection system), the collection system and educational programs can be standardized; fewer, larger contracts can be written to reduce administrative costs; and the single entity managing recycling has much more control over market price than do a larger number of smaller entities[20]. If managed well, the streamlining afforded by full producer responsibility for operations could lead to lower system costs, though the limited available data from North America does not show this to be the case.[21]

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[20] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. A common comment from local government stakeholders during the revision of Recycle BC's stewardship plan is that incentive payments made by the stewardship organization to collectors are insufficient. For instance, the City of Vancouver receives an incentive of $66 per ton for recycling collected for Recycle BC at its depots, while Recycle BC's own cost study pegs the per ton cost of recycling through a depot at $301 per ton. Because Recycle BC is the only buyer, it has a lot of power to influence the price. Data from, Recycle BC, "Consultation Report on Revised Packaging and Paper Product Extended Producer Responsibility Plan", October 2018.

[21] Recycle BC performed a cost comparison of pre-program costs (2012 data) and costs 5 years into the program (2017). This cost study uses a limited sample size but is the best data available to compare costs under a free-market vs. stewardship run recycling system. Results show that the range of kilograms of packaging diverted for recycling per household has shifted downward for both curbside and multifamily collections (from 48-270kg/household to 42-200kg/household using curbside and from 73-136 kg/household to 67-91kg/household using multifamily collection);

Proponents of a shared responsibility system cite the advantages of maintaining diverse recycling systems as the maintenance of free market forces in the industry and the avoidance of stranded investments in the existing system. Competition in a free market correctly sets prices, leads to innovation, and drives efficiency and effectiveness elsewhere in the economy. Distributed end-of-life management of post-consumer packaging also ensures that, once recycled, these resources are available at market prices rather than having the price controlled by a single entity.

Maintaining municipal control of recycling also minimizes disruption of current waste management, allowing municipalities to continue collecting and sorting material as they see fit and avoiding the stranding of investments and excessive consolidation in the recycling industry that may be experienced if operational responsibility for recycling of packaging was removed from municipal MSW management systems. This type of system design dovetails with Maine law that assigns each municipality responsibility for providing for management of MSW generated within the municipality (see 38 M.R.S. § 1305.1). However, in such a shared responsibility system, municipalities and their recycling service providers must be willing to share information with producers to ensure transparency in costs and accountability for ensuring materials are recycled.

Division of financial responsibilities: incentives for *efficient* collection and recycling. Careful division of financial responsibility in legislative design can promote efficient collection and recycling systems. If producers are financially responsible for the recycling of packaging yet municipalities have operational control of their recycling programs (i.e., producers pay municipalities for their costs of recycling packaging), system requirements should include incentives for municipalities to operate efficiently. Existing Canadian programs in which municipalities have operational control over recycling do this by tying municipal costs to producer costs, defining what constitutes an efficient program, and providing municipalities with extensive producer assistance. For example, defining reimbursable municipal costs as the average regional cost of municipal recycling rather than each municipality's actual costs results in municipalities with higher-than average costs bearing the cost of their premium operations. Conversely, municipalities with lower-than-average costs receive a premium for their efficient operations. This incentivizes cost-efficient municipal operations and dis-incentivizes premium operations.

The legislative design of a shared responsibility system can also promote efficiency by giving producers the ability to lower their program costs by managing their own recycling plans. Producers want, and should have, the opportunity to provide new or improved recycling options for their packaging (some producers already provide for recycling of their packaging). [22]

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the change in quantity collected using depots is not reported. Cost data shows a 6% increase in cost per household for curbside collection, a 11% increase in cost per household for multifamily collection, and a 79% increase in cost per ton at depots. Cost savings were realized in the areas of education and administration (39% and 62%, respectively), but these costs make up a much lower percentage of total program costs than do the costs of collection ($1.50/household on education, $1.60/household on administration, $43/household on curbside collection, $23/household on multifamily collection, and $301/ton on depot collection). Data from, Recycle BC "Packaging and Paper Product Collection Costs Five Year Cost Study Refresh", June 8, 2018.

[22] Letter to Elena Bertocci, Maine DEP, from Calla Farna, Vice President Corporate Affairs, Canadian Stewardship Services Alliance, December 11, 2018.

Legislation can support the creation of new, and maintenance of current, producer recycling operations by providing producers the ability to offset their financial responsibility for material they place on the market by collecting and recycling that material through their own programs. For instance, every pound of plastic bags a producer collects may offset a pound of plastic bags it marketed and the amount the producer would pay into the system. If a producer collects as many pounds of plastic bags as it markets, it would not need to pay into the system. With this design, if a material is not being handled efficiently by municipal recycling programs, producers have the incentive and the ability to create an alternative management system.

Division of operational responsibilities: incentives for *effective* collection and recycling. In systems where municipalities are operationally responsible for recycling, when a municipality recycles more, it pays less for trash disposal. When combined with a system that incentivizes municipalities to recycle better as described above, municipalities have strong incentives to recycle as much material as possible, as well as possible.[23] Conversely, in systems where a producer or group of producers operate the only collection system, they pay more as their collection increases (other than when the material is worth more than the cost of processing and transportation). [24] In this case, the responsible entity (producer) has an incentive to collect as little recycling as is allowable under the law and to recycle only to the extent the law requires. A legislative design that maintains municipal control over municipal recycling operations incentivizes effective collection for recycling.

b) Incentives and disincentives to support the use of readily-recyclable packaging

Legislation establishing EPR for packaging should include incentives that promote the design and use of packaging that can be efficiently collected and reused or recycled. Whether the legislation requires full producer responsibility or establishes a shared responsibility system, it can incentivize the use of readily recyclable packaging by calibrating financial responsibility based on the cost to recycle the packaging material as well as the amount of packaging a producer sells into Maine. Producer costs for packaging that has a positive recycling value (taking into account the cost of processing and transportation) could be limited to simply providing support for consumer recycling education.

A shared responsibility system can be designed to provide producers with additional incentives to create new opportunities for recycling materials that currently are not readily recyclable. One

[23] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. The Recycle BC program is criticized for its extensive limitations on eligibility for participation. Local governments and First Nations note that collection could be expanded if Recycle BC would loosen population and process restrictions that prevent many smaller, more rural communities from participating. Complaints include an inability to drop off recycling even if a community that is not served by Recycle BC is willing to pay a hauler to bring its material to an existing Recycle BC depot. Recycle BC, "Consultation Report on Revised Packaging and Paper Product Extended Producer Responsibility Plan", October 2018.

[24] Recycle BC runs the only North American packaging stewardship program that gives producers responsibility for recycling operations. According to page 9 of its 2018 Packaging and Paper Product Extended Producer Responsibility Plan, "Recycle BC offers financial incentives to qualified collectors. These incentives are designed to provide collectors near-by with sufficient incentive to collect the amount of PPP required by Recycle BC to meet its targets." "Packaging and Paper Product Extended Producer Responsibility Plan", Recycle BC, October 2018 revision. As could be anticipated, considering the incentives and this statement, the program's recovery rate dropped in 2017 after passing the mandated minimum in 2016.

mechanism to accomplish this is to require producers to reimburse municipalities their costs of disposal for packaging materials that are not readily recyclable in Maine. This eliminates any incentive to switch recyclable materials packaging, which may carry a cost in the system, to non-recyclable. It also creates a financial incentive for producers to develop recycling processes and/or infrastructure to increase the types of packaging that are readily recyclable. For example, although systems do not exist today for recycling multi-laminate pouches, producers may help support the development of new recycling processes and the subsequent establishment of nearby infrastructure to make multi-laminate packaging readily recyclable in Maine.

B. Pharmaceuticals

A pharmaceutical product stewardship program meets four of the five criteria listed in the framework law – all but the criterion of increasing recovery of material for reuse and recycling. The most compelling of the criterion as relates to pharmaceuticals is the increasing evidence that, when not managed properly, they adversely impact the environment and public health and safety.

The public health argument for proper disposal of pharmaceuticals is strong. A 2015 study published in the U.S. National Library of Medicine, National Institutes of Health estimates that 2 of 3 prescriptions dispensed go unused.[25] Unused medications may be left sitting in medicine cabinets, where they contribute to accidental poisonings of children[26] and are available to potential abusers – in 2013, 18% of Maine high school students reported having misused a prescription drug during their lifetime and more than 1 in 3 Maine parents felt their teen would be able to access prescription medications at home without parental knowledge.[27]

Common disposal options like sending unused meds to landfills or through waste water treatment systems result in the release of these chemicals into the environment. A study of Seattle area seafood performed during the spring of 2018 detected opiates, antibiotics, anti-depressants, chemotherapy drugs and heart medications. Because shellfish lack the ability to metabolize these chemicals, they can be passed on to humans that consume them.[28] In addition, an Associated Press investigation found pharmaceuticals including antibiotics, anti-convulsants, mood stabilizers and sex

[25] Law A.V., Sakharkar P., Zargarzadeh A., Tai B.W., Hess K., Hata M., Mireles R., Ha C., Park T.J. (2014, Oct 17). "Taking stock of medication wastage: Unused medications in the U.S." U.S. National Library of Medicine, National Institutes of Health.https://calpsc.org/mobius/cpsc-content/uploads/2015/08/Study-Taking-Stock-of-Medication-Wastage-Unused-Medicines-in-US-Households-2015.pdf

[26] Centers for Disease Control and Prevention, "Protect the Ones You Love: Childhood Injuries are Preventable", https://www.cdc.gov/safechild/poisoning/index.html

[27]Diomede, Tim. Maine Department of Health and Human Services. "SEOW Special Report: Heroin, Opioids, and Other Drugs in Maine". October 2015. https://www.maine.gov/dhhs/samhs/osa/data/cesn/Heroin_Opioids_and_Other_Drugs_in_Maine_SEOW_Report.pdf

[28] NPR. "Traces of opioids found in Seattle area mussels", May 25, 2018.

hormones in the drinking water supplies of at least 41 million Americans.[29] It is known that pharmaceuticals in the environment are having toxic effects on marine animals[30] and fish.[31]

The case for pharmaceutical takeback has been strengthened by the connection between prescription opioids and opioid abuse. This link led the legislature to enact, "An Act to Prevent Opiate Abuse by Strengthening the Controlled Substances Prescription Monitoring Program" in March of 2017. Since 2016, four states have enacted product stewardship laws for pharmaceuticals: Massachusetts and Vermont included extended producer responsibility requirements for pharmaceutical takeback as part of comprehensive legislation for the prevention of opioid abuse, while New York and Washington passed stand-alone product stewardship laws to fight prescription drug abuse.

In response to the opioid epidemic, a number of Maine entities have begun pharmaceutical takeback programs. Although these appear to be doing a good job and are free,[32] collection sites and events are limited, as is money to cover the costs of education, outreach, and collection. Establishing an EPR law for pharmaceuticals could guarantee on-going funding and provide for safe, convenient collection from consumers, extended care facilities, and medical service providers.

C. Mattresses

Mattresses meet all 5 criteria established in Maine's *Product Stewardship* framework law for evaluating products to determine whether mandated product stewardship will facilitate recycling (see criteria above and at 38 M.R.S. § 1772.2).

First, many mattresses contain organohalogen flame retardants (OFRs), including brominated flame retardants (BFRs). In September 2017, the Consumer Products Safety Commission (CPSC) issued a guidance document recommending producers to stop manufacturing mattresses containing OFRs and warning consumers to avoid products containing OFRs,[33] due to their potential toxicity. Maine law (38 M.R.S. § 1609) banned the sale of mattresses and mattress pads made with the "deca" mixture of polybrominated diphenyl ethers beginning January 1, 2008. Given these and similar governmental actions, the risk to public health and the environment from flame retardants in mattresses should decrease over time.

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[29] Granite State Analytical Services, June 2018 Newsletter "Pharmaceuticals in Drinking Water"

[30] Hernando M.D., Mezcua M., Fernandez-Alba A.R., Barcelo D. (2006). "Environmental risk assessment of pharmaceutical residues in wastewater effluents, surface waters and sediments." Talanta 69: 334-342.

[31] Corcoran, J., Winter, M.J. and Tyler, C.R. (2010). "Pharmaceuticals in the aquatic environment: A critical review of the evidence for health effects in fish." Critical Reviews in Toxicology 40,4: 287-304

[32] Current efforts include 59 permanent sites for collection from households only (medical and residential care facilities cannot utilize the current system). The permanent collection sites are located at police offices or sheriff's stations; they offer continuous collection then store pharmaceuticals until they can access free disposal provided by the USDEA National Takeback Days. Although Maine has just 0.4% of the country's population, Maine collected 3% by weight of total drugs turned in during the most recent national one-day USDEA event, including unwanted pharmaceuticals collected at 157 temporary collection sites.

[33] *Guidance Document on Hazardous Additive, Non-Polymeric Organohalogen Flame Retardants in Certain Consumer Products*, Consumer Product Safety Commission, Federal Register / Vol. 82, No. 187 / Thursday, September 28, 2017 / Notices, (available at https://www.govinfo.gov/content/pkg/FR-2017-09-28/pdf/2017-20733.pdf)

Mattress recycling currently occurs in Maine on an ad hoc basis at a few solid waste facilities. In these cases, facility staff deconstruct mattresses into their wood, metal, foam and fabric components, then recycle the metal, manage the wood with other clean wood wastes, and send the foam and fabric for disposal. Although there are a few businesses that dismantle mattresses in southern New England, there are no such businesses in Maine.

Currently in Maine the vast majority of discarded mattresses are sent for disposal. The costs to municipalities for handling and transportation are relatively high compared to other waste streams due to their bulk; municipalities also bear the cost of disposal fees. Mattresses cause operational challenges for landfills in that they do not compress and have a tendency to "float" to the surface, potentially compromising cover systems.

Connecticut, Rhode Island and California have all enacted EPR laws for mattresses. The mattress recycling programs in these three states are administered by an industry-led nonprofit, the Mattress Recycling Council (MRC), with state government oversight. The program is funded by a visible fee that is levied on new mattress purchases, which is established based upon population distribution, geographic considerations, and other factors. MRC recently announced it has recycled more than 3 million mattresses in California. During the most recent fiscal year (July 1, 2017 – June 30, 2018), MRC recycled more than 180,000 mattresses, bring the total recycled in Connecticut since the program began in 2015 to almost ½ million. In its second year of operation in Rhode Island, the MRC program (known as "Bye Bye Mattress") collected 83,762 mattresses and recycled 1,645 tons of material.[34]

There are no existing voluntary stewardship programs for mattresses in Maine.

The Connecticut, Rhode Island, and California EPR programs all have significantly increased the diversion of mattresses from disposal to recycling. However, the fee per unit (a mattress and a box spring are 2 separate units) at sale in Rhode Island jumped from $11 to $16 within 2 years of program implementation (currently the fee is $9 in Connecticut and $10.50 in California). Given Maine's geographic size, low population, and lack of businesses to deconstruct mattresses, enacting a law with the same financing mechanism likely would result in a per unit fee at sale even higher than the $16 fee in Rhode Island. When the Legislature considered the bill to establish an EPR program for architectural paint, concerns were raised that a fee at sale may drive consumers to purchase products outside of Maine rather than in Maine. The higher the fee at sale, the more likely this consumer reaction may happen. Additionally, financing an EPR program fully on revenues collected from a fee-at-sale provides little incentive for manufacturers to design their products for recycling. Given these dynamics, an EPR system for mattresses funded at least partially through cost internalization may be most appropriate for Maine.

D. Carpet

Carpet meets four of the five criteria listed in the framework law for identifying stewardship candidate products – all but the criterion of toxics in the product. However, it is worth noting that

[34] This data and additional information on the 3 state programs are available through the Mattress Recycling Council's website at https://mattressrecyclingcouncil.org/programs/.

although carpets generally do not meet the toxin criterion, research shows that some carpets may contain brominated flame retardants,[35] which pose health concerns related to endocrine disruption, immunotoxicity, reproductive toxicity, and neurotoxicity.[36]

In 2002, the carpet industry, several non-governmental organizations (NGOs), the EPA, and 21 states including Maine signed onto a ten-year Memorandum of Understanding for Carpet Stewardship ("MOU") intended to support recycling of end-of-life carpet.[37] This MOU resulted in the establishment of the Carpet America Recovery Effort (CARE), which was formed to implement the MOU. Barriers to the implementation of a voluntary, market-driven carpet recycling program included a shrinking market share for the carpet industry in the flooring market and decreasing value of carpet due to substitution of lower-value materials such as PET (Polyethylene Terephthalate) for higher-value materials such as nylon.

The 2011 Product Stewardship report observed that "industry has not achieved the diversion and recycling goals set by the MOU," and although a stewardship program was not proposed at that time, the report was clear that "the need for product stewardship legislation may change if significant progress is not made by the industry to establish affordable carpet recycling in Maine." Since that time, minimal progress has been made with voluntary efforts to recycle carpet in Maine. Several states that signed the MOU have enacted or are considering carpet stewardship legislation; California became the first state[38] to enact a carpet stewardship law in 2010[39] and the New York Legislature is currently considering a carpet EPR bill.[40]

CARE acknowledges the lack of recycling availability on their website, which states, "There is no simple, routine method in place today to recycle old carpet. Each case is individual since there is no infrastructure to handle old carpet at this time."[41] A contributing challenge to widespread carpet recycling is that some types of carpet currently on the market are readily recyclable and some are not.[42] EPR has the opportunity to influence design by encouraging use of readily recyclable materials over those destined for disposal at end-of-life. While a real challenge exists for recycling low-value carpet made from materials that are not easy to recycle, the design of the carpet is a key factor. Manufacturers tasked with ensuring their products are recycled may be more likely to use high-value recyclable materials over low-value non-recyclable materials.

A product stewardship program for carpet will increase the recovery of materials for reuse and recycling and reduce the costs of waste management to local governments and taxpayers. For a

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[35] *Environmental concentrations and consumer exposure data for selected flame retardants (TBB, TBPH, TBBPA, ATO),* Consumer Product Safety Commission, 2015

[36] Gosavi RA, Knudsen GA, Birnbaum LS, Pedersen LC. 2013. Mimicking of estradiol binding by flame retardants and their metabolites: a crystallographic analysis. *Environ Health Perspect 121*(10):1194-1199.

[37] Other states include New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, North Carolina, Tennessee, South Carolina, Georgia, Florida, Minnesota, Wisconsin, Iowa, Washington, Oregon, and California.

[38] *Carpet stewardship law*, California Department of Resources Recycling and Recovery (CalRecycle).

[39] *Chapter 20. Product Stewardship for Carpets,* California Legislative Information.

[40] *Bill Summary for S07147*, New York State Assembly.

[41] *FAQs, How can I recycle my old carpet?,* Carpet America Recovery Effort.

[42] *Carpet Fiber Types,* California Department of Resources Recycling and Recovery (CalRecycle).

successful program, it is important to incentivize reuse and recycling as well as the use of recycled content.

Adequate funding and resource allocation is essential to establish a functional and lasting program. California's EPR program is funded by a consumer fee upon sale, which has increased steadily over time from $0.05 per square yard to $0.25 per square yard[43] and will increase again to $0.35 per square yard as of January 2019.[44] During the public comment period for review and approval of CARE's 2017 carpet stewardship plan, dozens of negative comments were submitted over continued fee increases, many from flooring businesses concerned with the impact consumer fee increases were having on their carpet sales, business, or livelihood.[45] As with mattresses, Maine's large geographic size, low population, and lack of businesses to recycle carpet make it likely that enacting a law with the same financing mechanism would result in a per square yard fee at sale even higher than the $0.35 fee in California. Additionally, financing an EPR program fully on revenues collected from a fee-at-sale provides little incentive for manufacturers to design their products for recycling. Given these dynamics, an EPR system for carpet funded at least partially through cost internalization may be most appropriate for Maine.

E. Solar panels

Product stewardship for photovoltaic (PV) solar panels meets all five criteria outlined in the Framework Law. There are no federal regulations to require solar panel recycling, nor are there any third-party or public recycling programs aside from "limited manufacturer take-back programs."[46] Recycling is generally motivated by either the value of raw materials or regulations that mandate recycling. Current technology makes it possible to extract or reuse approximately 80% of the solar panel materials.[47] By 2030, estimates suggest it will be technically possible to recover raw materials from waste solar panels sufficient to "produce approximately 60 million new panels, or 18 GW of power-generation capacity" with an estimated value of "up to USD 450 million (in 2016 terms)" and "by 2050, the recoverable value could cumulatively exceed USD 15 billion, equivalent to 2 billion panels, or 630 GW."[48] However, on an individual basis, there isn't "a large amount of money-making salvageable parts on any type of solar panel," [49] and it is unlikely that sufficient economic motivation exists to support voluntary development of a robust collection and recycling network.

Approximately two-thirds of solar panels are crystalline-silicon (c-Si), made from 90% glass, polymer, and aluminum and silver, tin, and lead.[50] The remaining one-third of panels are thin-film, made from 98% glass, polymer, and aluminum with 2% copper and zinc and silicon semiconductor and may include indium, gallium, selenium, lead, and cadmium and tellurium in the form of

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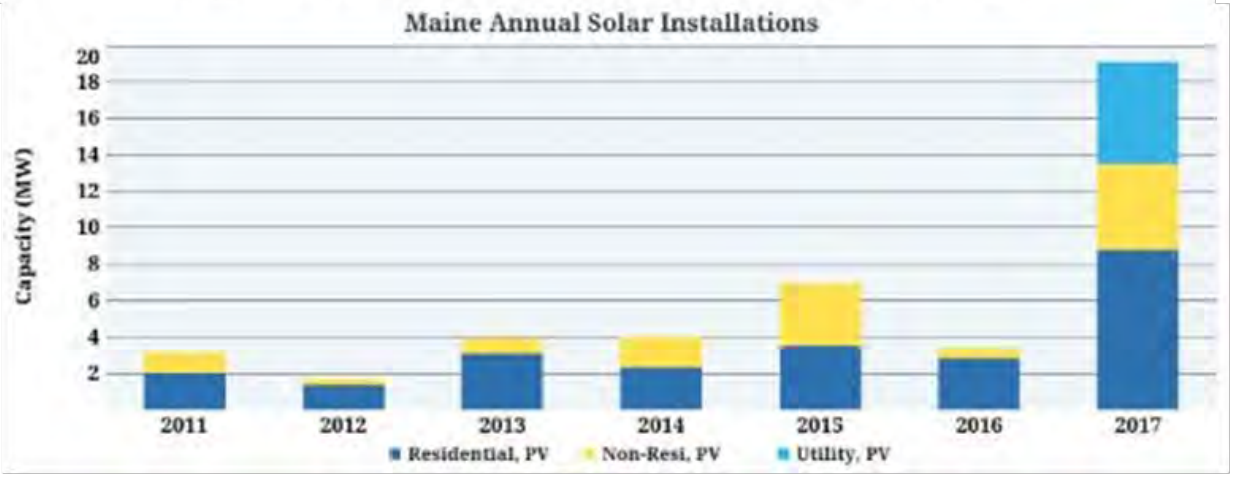
[43] *Public Notice: Consideration of Carpet America Recovery Effort's California Carpet Stewardship Plan 2018-2022.* California Department of Resources Recycling and Recovery (CalRecycle).
[44] *California Carpet Stewardship Assessment to Increase on January 1, 2019*, Carpet America Recovery Effort (CARE).
[45] *Public Notice: Consideration of Carpet America Recovery Effort's California Carpet Stewardship Plan 2018-2022.* California Department of Resources Recycling and Recovery (CalRecycle).
[46] Enbar, N. *PV life cycle analysis: Managing PV assets over an uncertain lifetime.* Electronic Power Research Institute, 2016
[47] *Ibid.*
[48] *End-of-life management: Solar photovoltaic panels.* IEA-PVPS Report Number: T12-06:2016
[49] "*It's time to plan for solar panel recycling in the United States*," April 2018, Solar Power World.
[50] *End-of-life management: Solar photovoltaic panels.* IEA-PVPS Report Number: T12-06:2016

cadmium telluride (CdTe).[51] Heavy metals in solar panels including lead, tin, and cadmium can pollute the environment and pose threats to human health when panels are not properly managed.[52] Landfill disposal poses risks as the panels may break and leach toxics into the soil[53] A recent PV life cycle analysis noted that decommissioning plans for solar sites are meant to include information on safe disposal for all materials, but plans "often don't specify what to do or how to do it."[54]

Solar panels have an average lifetime of 25-30 years.[55] Recycling of solar panels "was not a concern during their first 25 years of development," but early installations are now entering the waste stream in "considerable numbers."[56] Research modeling projects solar panel waste in the US may increase to between 170,000 to 1 million metric tons cumulatively by 2030 and to between "7.5-10 million tons in 2050."[57] The overall proportion of waste to new installations is expected to increase over time from an estimated 4-14% in 2030 and up to more than 80% in 2050.[58]

Figure 5: New installation of solar capacity in Maine over time



Currently, there are approximately 4,268 solar installations powering 6,568 homes in Maine.[59] Prices for solar installation have decreased by an estimated 43% over the last five years in Maine, and the number of installations increased sharply in 2017.[60] Solar panel-specific treatment standards and collection and recycling regulations are "crucial to consistently, efficiently and profitably deal with increasing waste volumes."[61] Given the lack of any solar panel-specific recycling program in Maine, municipalities are likely to face an increasing financial burden as solar panel waste increases. In the

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[51] *Ibid.*
[52] Xu, Y., Li, J., Tan, Q., Peters, A. and Yang, C. (2018). Global status of recycling waste solar panels: A review. *Waste Management,* 75, pp.450-458.
[53] *Ibid.*
[54] Enbar, N. *PV life cycle analysis: Managing PV assets over an uncertain lifetime.* Electronic Power Research Institute, 2016
[55] Solar Energy Industry Association, *PV Recycling:* https://www.seia.org/initiatives/pv-recycling
[56] *End-of-life management: Solar photovoltaic panels.* IEA-PVPS Report Number: T12-06:2016
[57] *Ibid.*
[58] *Ibid.*
[59] Installations and table from "Maine solar data current through Q3 2018," Solar Energy Industries Association, 2018.
[60]Installations and table from "Maine solar data current through Q3 2018," Solar Energy Industries Association, 2018.
[61] *End-of-life management: Solar photovoltaic panels.* IEA-PVPS Report Number: T12-06:2016

US, the State of Washington has passed EPR legislation for solar panels. The legislation, passed in 2017, requires manufacturers to "finance the takeback and recycling system at no cost to the owner of the PV module" by 2021.[62] The law requires that the manufacturers' plan includes performance goals for "combined reuse and recycling of collected photovoltaic modules as a percentage of the total weight of photovoltaic modules collected, which rate must be no less than eighty-five percent."[63] The regulation was part of a larger solar incentives package and is expected to generate new jobs and businesses in solar panel recycling. New York's Legislature is currently considering a solar panel EPR bill.[64]

Proactively establishing EPR for solar panels will allow companies to internalize recovery costs into current production and sales. In addition, the increasing volume of PV waste may improve economies of scale over time.[65] Including incentives for design can also help minimize impacts on the environment and increase efficient use of resources for production, collection, and recycling.

V. Implementation status for Maine's other EPR programs

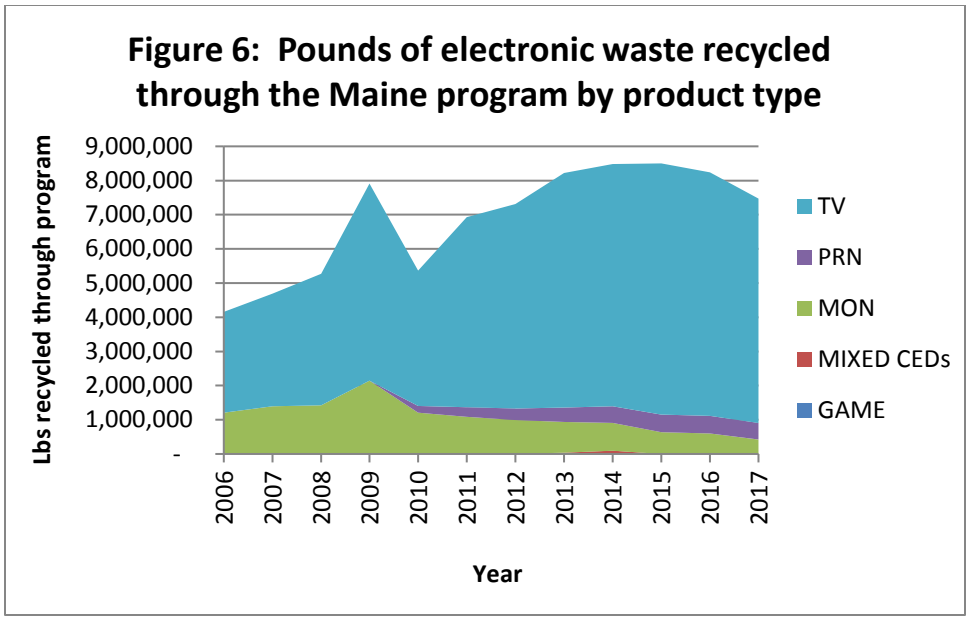
A. Electronic waste - 38 M.R.S. § 1610

This law was amended by Maine's 128th Legislature to increase efficiency by reducing brand-sorting. These amendments required changes to the Department's rule governing electronics recycling; law and rule changes went into effect in August.

Because of these changes:

- historic manufacturers no longer register with the Department and are no longer billed for recycling costs;
- all recycling costs are distributed among current manufacturers according to a department determined recycling share that is based on national market share and adjusted to exempt small manufacturers and provide credit to manufacturers with environmentally preferable products and takeback programs;
- program payment structure no longer discourages refurbishment; and
- 3D printers have been added as covered products.

[62] *'Information for manufacturers of PV modules'* Department of Ecology, State of Washington.
[63] Chapter 70.355 RCW, *Photovoltaic Module Stewardship and Takeback Program*, Washington State Legislature
[64] *Senate Bill S2837A*, The New York State Senate.
[65] *End-of-life management: Solar photovoltaic panels.* IEA-PVPS Report Number: T12-06:2016



The question of appropriate product scope was also discussed during the legislative work session and was largely unaddressed by the change. Another change that was not made, though it was suggested by program consolidators during both the legislative work session and department rulemaking, was the increase or removal of the per pound cap of recycling costs that can be approved by the Department.

The department is undertaking an evaluation of the effectiveness of credits feeding into recycling share calculations and payments to consolidators for refurbishment, and gathering information on appropriate product scope and the sufficiency of the per pound cap on recycling payments set by department rule. Overall, e-waste collections continue to level off, likely due to light-weighting in the electronics industry.

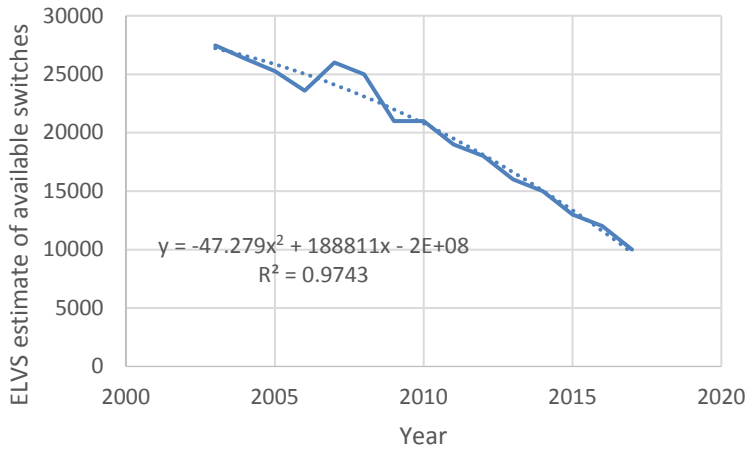
B. Mercury auto switches – 38 M.R.S. § 1665-A

There were no major changes in the implementation of this law in 2018. This program has been in place since 2003, so Department work mainly consists of telephone contact with previous participants to remind them of the need to collect switches and ensure they have materials and information they need to do so. Some work is still done to identify new participants using DMV Car Recycler records.

During 2017, Maine auto-recyclers collected 4448 switches containing approximately 9.8 pounds of mercury. This represents 44% of switches estimated to be available for collection and a more than 200% increase from 2016 collections.

The subsection of Chapter 16-B *Mercury-added products and services* that created this stewardship program also banned the sale of new vehicles with mercury-auto switches. As a result, the number of a switches available for collection is decreasing. Statute directs the department to recommend repeal of the program once the commissioner determines that the number of mercury switches available for collection is too small to warrant continued collection. The department is not recommending this action at this point.

Figure 7: Estimated switches available with trendlines for future calculation



Extrapolation of available switches using best fit trendline	
Year	Polynomic (best fit) trendline extrapolation of available switches
2018	8,000
2019	6,000
2020	4,000
2021	1,000
2022	-

End of Life Vehicle Solutions (ELVS), the non-profit entity that runs mercury auto-switch collection programs for auto manufacturers nationally, currently plans to end collection in states where switches are collected voluntarily in 2021. There are no available estimates of the number of switches available for recycling after 2017, but extrapolation of the estimates of switches available for collection in Maine from previous years suggest that after 2021, the number of available switches will be negligible. Actual collection amounts and information from automobile recyclers in the coming years can better inform the decision of when Maine's law should sunset but, barring the development of additional information to the contrary, 2021 may be the year.

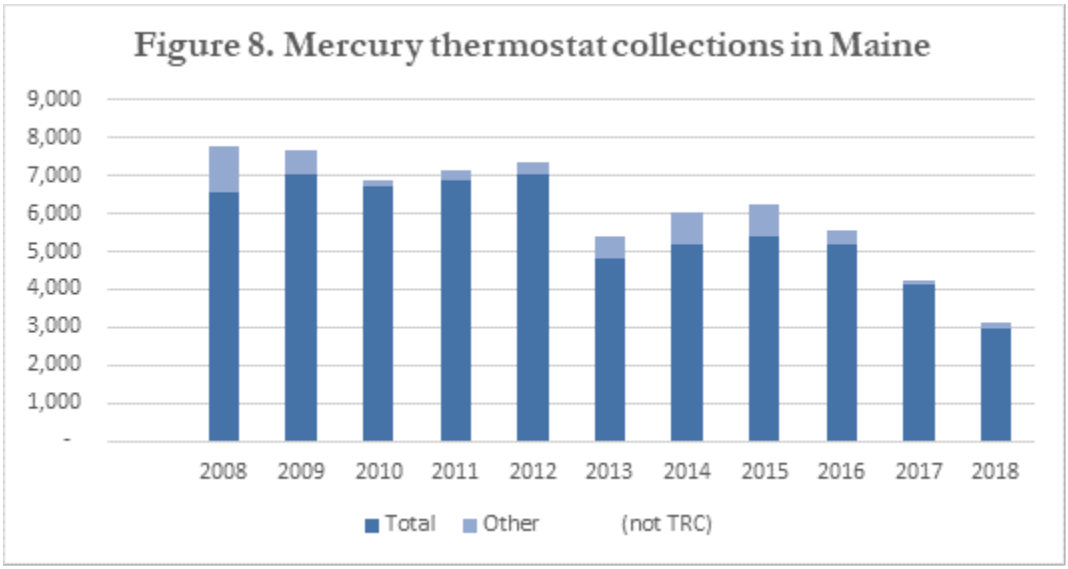
C. Mercury thermostats - 38 M.R.S. § 1665-B

Program description: Maine's *Mercury-added Thermostats* law, 38 M.R.S. § 1665-B, enacted in 2005, established extended producer responsibility for the collection and recycling of mercury-added thermostats, and beginning in 2007 required a five-dollar ($5.00) incentive payment for each mercury thermostat returned.

Current performance: A total of 4,112 mercury thermostats were collected in 2017 (by TRC and through universal waste management), down from 5,190 in 2016 (3,973 by TRC and 139 through universal waste management). Preliminary data suggests TRC collections dropped to just under

3,000 mercury thermostats in 2018[66]. Since 2001, approximately 534 pounds of mercury has been recovered through thermostat recycling efforts in Maine, 86% of which was recovered through TRC's program.[67]

As was recommended in the *Implementing Product Stewardship in Maine* report submitted to the Legislature in February 2016, TRC simplified the manufacturers' financial incentive payment system for wholesaler and contractor locations. This new process was implemented throughout 2016 and 2017, and has received many positive comments from collection locations. Subsequent to the Department's 2016 report, TRC also made significant improvements to data access with a real-time reporting system that provides public access to TRC's current and historic mercury thermostat recycling data. TRC has been waiving its standard one-time $25 fee for a mercury thermostat bin to encourage participation, and has provided the Department with new promotional materials focused on the $5 incentive to distribute. In addition, TRC has conducted an annual round of site visits to 35-45 Maine collection locations that had not returned their mercury thermostat bin within the past year.



From 2007-2016, collections averaged roughly 5,200 thermostats per year, consistently at least 40% higher than rates achieved before the $5 incentive was implemented. However, collections declined over the past two years; by 18% in 2017 and by 25% in 2018[68].

TRC conducted national and regional advertising campaigns 2017, but campaign efforts that may have reached Maine residents did not contain information about Maine's program and the $5 incentive. However, TRC is currently ramping up its Maine-specific efforts and has been working with the Department to improve its education and outreach campaign in Maine. Statute requires that TRC provide an "analysis of program effectiveness" in its annual report. TRC provides a record

[66] Preliminary 2018 data is based on TRC's real-time reporting as of 12/28/2018.
[67] Department staff recently reviewed all historic data provided by TRC. An average of 3.18 grams of mercury per thermostat was found and used in calculations for this year's report. In previous reports, an estimate of 4 grams per thermostat was used to calculate the total amount of mercury collected.
[68] Preliminary 2018 data is based on TRC's real-time reporting as of 12/28/2018.

of year-to-year collections in Maine and nationwide as well as comparisons between state collections. These numbers do not account for the estimated number of thermostats available for collection, nor do they compare annual collections to the statutory performance goal of 160 pounds of mercury per year (equivalent to roughly 22,822 thermostats). TRC reported in 2017 that declines in mercury thermostat collections can be explained by the fact that production was phased out by 2007. However, mercury thermostats have a life expectancy of 30-50 years, although increasing options for energy-saving thermostats may result in early replacement.

The data show that millions of mercury thermostats were still being sold annually until the mid-2000s. In 2017, TRC reported collections of approximately 2.1 million mercury thermostats in its 20 years of operation, equivalent to 0.00002% of the mercury contained in thermostats sold in just the selective six years shown in the table below, which represent the time period during which mercury thermostats were phased out and sales were dwindling. It is unknown how many mercury thermostats have been collected through other programs or remain in use.

Without data upon which to base the claim that collections are dropping due to lack of available mercury thermostats, TRC and the Department do not have adequate information to assess the program's performance. The Department continues to recommend that TRC contract an independent third-party study to determine the expected annual outflow of mercury-added thermostats from Maine. The results of such a study would allow the Department to achieve a more accurate quantitative evaluation of program performance and better target efforts to improve collection rates, and could serve as a basis for adjusting statutory goals as appropriate.

Figure 9 - Total mercury sold in thermostats (pounds)[69]

Year	Pounds mercury	Estimated thermostats
2001	29,253	4,172,659
2004	28,901	4,122,449
2007	7,485	1,067,663
2010	32	4,564
2013	102	14,549
2016	0	0

D. Architectural paint. 38 M.R.S. § 2144

Program description: PaintCare is a non-profit third-party organization established by the paint manufacturers to fulfill their responsibilities under EPR laws in effect in 8 states and the District of Columbia. The costs of operating the PaintCare program are funded by a fee levied at the point of sale on paint.

Consumers may return unwanted architectural paint at no cost to participating retail and municipal collection sites, and to municipally-offered household hazardous waste (HHW) collection events that partner with PaintCare. PaintCare provides the collection sites with gaylords (boxes that are approximately one cubic yard in size) for collection and shipping of the paint, in-person training and a training manual, and education and outreach materials for customers. In addition, PaintCare's Program Manager visits each collection location throughout the state at least once annually.

[69] Table data is based on fact sheet: IMERC Mercury Use in Thermostats, 2015.

Current performance: PaintCare reports on a fiscal year (July 1 – June 30) basis. In FY 2018 (July 1, 2017 – June 30, 2018), PaintCare collected and processed 129,907 gallons of postconsumer paint, 76% of which was latex and 24% of which was oil-based. The program had a recycling rate of approximately 59% in 2017, an increase over the 2016 recycling rate of 50%.[70] 90% of the oil-based paint was used as fuel and 10% was recycled into new paint; the percentages of oil-based paint recycled was slightly higher than in the previous reporting period. 83% of the collected latex was made into recycle-content paint and 1% was used as fuel; 16% was unrecyclable and sent to landfills for disposal. These percentages were unchanged from the previous reporting period. In addition, 105 tons of consumer packaging, i.e., metal and plastic containers, were recycled.

PaintCare's analysis shows that its collection network provides a permanent collection site within 15 miles of 94.2% of Maine's population, exceeding the 90% goal set in statute. The current fees at sale are adequate to fund the program going forward in 2018, PaintCare established a separate subsidiary to operate the Maine program, keeping all funds collected in Maine for Maine program activity only.

In FY 2018, PaintCare reached out to housing authorities in Maine, ran Facebook online advertisements, conducted a print newspaper advertisement campaign, and provided pamphlets, posters, brochures, and other materials for collection sites. This advertising effort was noted to be limited due to budget constraints as PaintCare sought to make up costs incurred prior to program implementation. The program ended the fiscal year with a surplus of $270,717, and PaintCare has indicated that it will employ a variety of media activities to grow public awareness of the program, including television, radio, online and newspaper advertising, as program's financial health improves.

E. Plastic bags. 38 M.R.S. § 1605

Maine's "Plastic bags; recycling" law requires retailers that use plastic bags to have a receptacle within 20 feet of their store entrance to collect used plastic bags and to ensure the bags are collected. Rates of compliance with this "self-implementing" law are unknown. The Department does not have the resources to inspect retailers to assess compliance, but does provide technical assistance when complaints are received.

VI. Conclusion

Over the past 2 decades Maine and other jurisdictions in the U.S. and Canada have gained significant experience implementing mandatory product stewardship programs. In this report, the Department has applied lessons learned from this experience to recommend amendments to Maine's current laws to improve the effectiveness of existing programs in ensuring the safe handling of products containing toxics and in diverting materials from disposal. These "lessons learned" also can be used to inform discussions as Maine develops legislative proposals for new EPR programs. Given recent upheavals in recycling markets, an EPR program for packaging can help address the financial burden that municipalities bear in fulfilling their responsibilities for managing MSW while ensuring materials continue to be recycled. Additionally, pharmaceuticals, mattresses, carpet and solar panels are other products that present end-of-life management challenges that may be addressed by carefully-constructed EPR programs.

[70] Based on the estimate that approximately 10% of paint sold each year is left over.

Appendices

Appendix A – Proposed changes to Maine's Product Stewardship law

An Act to Improve Maine's Product Stewardship Law

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 M.R.S. §1776, is amended to read:

A product stewardship program established for a product or product category designated by the Legislature for inclusion in a product stewardship program must be established and implemented in accordance with the provisions of this section.

1. **Program.** A producer selling a product in the State that is a designated product or that is in a designated product category is responsible individually, collectively or through a stewardship organization for the implementation and financing of a product stewardship program to manage the product at the end of the product's life in accordance with the priorities in section 2101.

A. The program must include a collection system that is convenient and adequate to serve the needs of covered entities in both rural and urban areas, including a permanent collection site within 15 miles of 90% of Maine residents within 1 year of the start of product collections unless the commissioner determines the 90% requirement is not practicable due to geographical constraints or that an alternative collection system will result in equivalent and more efficient collection.

B. The program must provide for effective education and outreach to promote the use of the program and to ensure that collection options are understood by covered entities.

C. A producer or stewardship organization, including a producer's or stewardship organization's officers, members, employees and agents that organize a product stewardship program under this chapter, is immune from liability for the producer's or stewardship organization's conduct under state laws relating to antitrust, restraint of trade, unfair trade practices and other regulation of trade or commerce only to the extent necessary to plan and implement the producer's or stewardship organization's chosen organized collection or recycling system.

D. The program must provide for a minimum ½-time emplouee of esch producer or stewardship organization dedicated to implementing the program in Maine.

2. **Requirement for sale.** One hundred eighty days after a product stewardship plan under subsection 5 is approved in accordance with subsection 8, a producer may not sell or offer for sale in the State the relevant product, unless the producer of the product participates individually, collectively or through a product stewardship program in accordance with an approved product stewardship plan.

3. **No fee.** A product stewardship program may not charge a fee at the time an unwanted product is delivered or collected for recycling or disposal.

4. **Costs.** Producers in a product stewardship program shall finance the collection, transportation, ~~and~~ reuse, recycling or disposition of the relevant product, effective education and outreach, program assessment, reporting, any incentives necessary to achieve program collection goals, reasonable fees to the department for review of the program plan and any proposed amendments, and an annual fee to cover the actual costs for annual report review, oversight, administration and enforcement. The annual fee may not exceed $100,000 per year per stewardship program.

5. **Requirement to submit a plan.** Within one year of a product's or product category's being designated for inclusion in a product stewardship program, the relevant producer or stewardship organization shall submit a product stewardship plan to the department for approval. The plan must include:

A. Identification and contact information for:

(1) The individual or entity submitting the plan;

(2) All producers participating in the product stewardship program;

(3) The owners of the brands covered by the program; and

(4) If using a stewardship organization, the stewardship organization, including a description of the organization and the tasks to be performed by the organization. The description must include information on how the organization is organized, including administration of the organization and management of the organization;

B. A description of the collection system, including:

(1) The types of sites or other collection services to be used;

(2) How all products covered under the product stewardship program will be collected in all counties of the State; and

(3) How the collection system will be convenient and adequate to serve the needs of all entities;

C. The names and locations of recyclers, processors and disposal facilities that may be used by the product stewardship program;

D. Information on how the product and product components will be safely and securely transported, tracked and handled from collection through final disposition;

E. ~~If possible, a~~ A description of the methods to be used to reuse, deconstruct ~~or~~ and recycle the unwanted product to ensure that the product components are transformed or remanufactured to the extent feasible;

F. A description of how the convenience and adequacy of the collection system will be monitored and maintained;

G. A description of how the amount of product and product components collected, recycled, processed, reused and disposed of will be measured;

H. A description of the education and outreach methods that will be used to recruit, train and monitor collection sites, and to encourage participation by collection sites and consumers throughout the state on an on-going basis;

I. A description of how education and outreach methods will be evaluated, including at a minimum an annual consumer awareness survey to assess consumer knowledge about product management options and collection locations. The survey questions and methodology must be approved by the Department and the survey must be administered by a third party;

J. ~~Any~~ A description of how program performance will be assessed, including performance goals ~~established by producers or a stewardship organization~~ to show success of the program. When the performance goal is expressed as a recycling or diversion from disposal rate, the plan must include a description of the methodology and the relevant historic sales data used to develop the rate. The department shall keep sales information submitted pursuant to this paragraph confidential as provided under section 1310-B. The performance goals must include at least 50% of Maine residents having awareness in the third year of program implementation, or a recycling rate of at least 50% in the third year of program implementation and 80% in the sixth year of program implementation unless sufficient evidence is provided to justify alternative performance goals; ~~and~~

K. A description of how the program will be financed. If the program is financed by a per unit assessment paid by the ~~producer to a stewardship organization~~ consumer at the point of sale, a plan for an annual 3rd-party audit to ensure revenue from the assessment does not exceed the cost of implementing the product stewardship program must be included~~.~~, and

L. An anticipated budget for the program, broken down into administrative, collection, transportation, disposition, and communication costs. The annual budget must be sufficient to fund a minimum ½-time employee of each producer or stewardship organization dedicated to implementing the program in Maine, and funds to reimburse the department for its costs incurred in implementing the program. The budget must not include costs for legal fees or costs related to legislative efforts.

6. **Plan amendments.** Changes to an approved product stewardship plan may be initiated by the responsible manufacturers or by the department.

A. A change to an approved product stewardship plan by a manufacturer must be submitted to the department for review prior to the implementation of that change. If a change is not substantive, such as the addition of or a change to collection locations, or if an additional producer joins the product stewardship program, approval is not needed, but the producer or stewardship organization operating the program must inform the department of the change within 14 days of implementing the change. The department shall review plan amendments in accordance with subsection 8.

B. When the department determines that a product stewardship program has failed to make adequate progress toward achieving program goals, the department shall notify the responsible entities in writing of its findings and may direct the manufacturer to implement specific changes to the program plan within 6 months of the written notification. This may include the implementation of financial incentives or a deposit/refund system if appropriate for the product.

7. **Annual reporting.** By ~~February~~ March 1st of the calendar year after the calendar year in which an approved product stewardship program is implemented, and annually thereafter, the producer or stewardship organization operating the program shall submit to the department a report on the program for the previous calendar year. The report must include, at a minimum:

A. The amount of each product collected by collection site ~~per county~~;

B. A description of the methods used to collect, transport and process the product;

C. An evaluation of the program performance, including, if possible, diversion and recycling rates together with certificates of recycling or similar confirmations and an evaluation of the convenience of collection;

D. A description of the methods used for education and outreach efforts ~~and an evaluation of the convenience of collection~~ and the effectiveness of outreach and education. Every 2 years, the report must include the results of an assessment of the methods used for and effectiveness of education and outreach efforts. The assessment must be completed by a 3rd party;

E. If applicable, the report of the 3rd-party audit conducted to ensure that revenue collected from the assessment does not exceed implementation costs pursuant to subsection 5, paragraph K; ~~and~~

F. Any recommendations for changes to the product stewardship program to improve convenience of collection, consumer education and program evaluation; and

G. A financial report on the program, including: the total cost of implementing the program, as determined by an independent financial audit, including a breakdown of administrative, collection, transportation, disposition and communication costs; and an anticipated budget for the next program year.

8. **Department review and approval.** Within ~~20 business~~ 120 days after receipt of a proposed product stewardship plan, the department shall determine whether the plan complies with ~~subsection 5~~ this section. If the plan is approved, the department shall notify the submitter in writing. If the department rejects the plan, the department shall notify the submitter in writing stating the reason for rejecting the plan. ~~A submitter whose plan is rejected must submit a revised plan to the department within 60 days of receiving a notice of rejection.~~

Appendix B – Proposed changes to Maine's Mercury-added Lamp law

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 M.R.S. §1672, is amended to read:

1. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

…

E. Covered entity. "Covered entity" means a household in this State, a business or nonprofit organization in this State exempt from taxation under the United States Internal Revenue Code of 1986, Section 501(c)(3) that employs 100 or fewer individuals, an elementary school in this State or a secondary school in this State.

F. Proprietary information. "Proprietary information" means information that is a trade secret or production, commercial or financial information the disclosure of which would impair the competitive position of the submitter and which is not otherwise publicly available.

G. "Population center" means an urbanized area or urban cluster as defined by the United States Department of Commerce, Bureau of the Census to identify areas of high population density and urban land use with a population of 2,500 or greater.

Sec. 2. 38 M.R.S. §1672, is amended to read:

4. Manufacturer recycling programs for ~~household~~ mercury-added lamps. Effective January 1, 2011, each manufacturer of mercury-added lamps sold or distributed for ~~household~~ use by covered entities in the State on or after January 1, 2001 shall individually or collectively implement a department-approved program for the recycling of mercury-added lamps from ~~households~~ covered entities.

A. The recycling program required under this subsection must include, but is not limited to, the following:

(1) Convenient collection locations adequate to serve the needs of covered entities in both rural and urban areas ~~located~~ throughout the State where ~~residents~~ covered entities can drop off their ~~household~~ mercury-added lamps without cost, including but not limited to municipal collection sites and participating retail establishments;

(a) A method to determine the number and geographic distribution of lamp collection sites based on the use of geographic information modeling. By January 1, 2020 the program must provide that at least 90% of state residents have a permanent lamp collection site within a 15-mile radius of their residences, unless the commissioner determines that the 90% requirement is not practicable due to geographical constraints. If the commissioner determines the 90% requirement is not practicable, the commissioner may approve a plan that includes a geographic distribution of lamp collection sites that is practicable. The distribution of lamp collection sites must include at least one additional lamp collection site for each 30,000 residents in a population center that is located to provide convenient and reasonably equitable access for residents within the population center unless otherwise approved by the commissioner;

(b) Identification of the ways in which the program will coordinate with existing solid waste collection programs and events, including strategies to reach the State's residents who do not have a permanent lamp collection site within a 15-mile radius of their residences and to ensure adequate coverage of service center communities as defined in Title 30-A, section 4301, subsection 14-A;

(2) Handling and recycling equipment and practices in compliance with the universal waste rules adopted pursuant to section 1319-O, subsection 1, paragraph F, with subsection 6 if a crushing device is used and with all other applicable requirements;

(3) Provision of education and outreach efforts by the manufacturer to promote the program. The education and outreach efforts must include strategies for reaching consumers in all areas of the State and must ensure that collection options are understood by covered entities;

~~Effective~~ The education and outreach program~~, including, but not limited to,~~ shall, at a minimum, include posters, window clings, and point-of-purchase signs ~~and other materials~~ provided to ~~retail establishments~~ collection locations without cost~~; and~~ that can be prominently displayed and will be easily visible to the consumer, and outreach to the general public including annual web, print, and radio media campaigns in both rural and urban areas throughout the State.

(4) Goals for consumer awareness of the requirement to recycle mercury-added lamps and lamp collection locations, provisions for routinely evaluating the effectiveness of education and outreach efforts; and procedures for improving education and outreach efforts if goals are not achieved;

(5) A minimum ½-time employee of one or more manufacturers dedicated to implementing the program in Maine; and

~~(4)~~ (6) An annual report to the department which must, at a minimum, include the following information:

(a) ~~on t~~The number of mercury-added lamps recycled under the manufacturer's program and recommendations for program modifications to increase the percentage of discarded lamps recycled under the recycling program;

(b)~~, t~~The estimated percentage of mercury-added lamps available for recycling that were recycled under the program;

(c) ~~and t~~The methodology for estimating the number of mercury-added lamps available for recycling, which must include an assumption of the average life span by type of mercury-added lamp and number of lamps sold by type in the years on which the recycling calculation is based. If the manufacturer may designates this as proprietary information, the department shall handle this information in the same manner as confidential information is handled under section 1310-B ;

(d) A description of the methods used for education and outreach efforts and an evaluation of the effectiveness of ~~the recycling program, recommendations for increasing the number of lamps recycled under the recycling program~~ education and outreach. This must include a description of the methods used for measuring consumer awareness of the requirement to recycle mercury-added lamps, and every 2 years the results of an assessment of consumer awareness of the program completed by an independent third party;

(e) The location of and contact information for each collection point established under the program, and an assessment of the convenience of collection;

(f) Any recommendations for changes to the product stewardship program to improve convenience of collection, consumer education and program evaluation; and

(g) ~~and a~~An accounting of the costs associated with administering and implementing the recycling program;

…

~~F. The department may determine that a manufacturer's recycling program is in compliance with paragraph A, subparagraphs (1), (2) and (4) for the collection of compact fluorescent~~ mercury-added ~~lamps from households covered entities if the manufacturer provides adequate financial support for the collection and recycling of such lamps to municipalities and a conservation program established pursuant to Title 35-A, section 10110 and implemented by the Efficiency Maine Trust.~~

Appendix C – Proposed replacement for Maine's rechargeable battery recycling law

An Act to Establish Comprehensive Consumer Battery Recycling

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 MRSA §1611 is enacted to read:

§ 1611. Stewardship program for small batteries

1. Purpose. It is the intent of the legislature that the cost associated with the handling, recycling, and disposal of used batteries be the responsibility of the producers and consumers of batteries, not the local government or their service providers, state government, or tax payers. These costs should be internalized at or before the point of sale.

Further, it is the intent of the legislature that materials in batteries be made available for use in new products and, therefore, that they should be recycled to the greatest extent possible. Battery stewardship in this state should incentivize the design and marketing of batteries and battery-containing products that are more recyclable, less hazardous, and, in general, more environmentally sound.

2. Definitions. As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Approved product" means:

(1) A covered battery or a covered battery-containing product the producer of which participates in a battery stewardship program approved by the department; or

(2) A covered battery-containing product that has been listed in accordance with subsection 9 as the product of a participant in a covered battery stewardship program.

B. "Battery stewardship plan" means a plan submitted to the commissioner in accordance with subsection 3 by a producer or a battery stewardship organization.

C. "Battery stewardship program" means a system implemented for the collection, transportation, recycling, and disposal of covered batteries and/or covered battery-containing products in accordance with a battery stewardship plan approved by the Department.

D. "Brand" means a trademark, including both a registered and an unregistered trademark, a logo, a name, a symbol, a word, an identifier or a traceable mark that identifies a covered battery or covered battery-containing product and identifies as the producer of the battery or product the owner or licensee of the brand.

E. "Covered battery" means a new or unused primary battery or a small rechargeable battery.

F. "Covered battery-containing product" means a new or unused primary battery-containing product or a rechargeable battery-containing product, or a product containing a covered battery that is not easily removed from the product using common household tools.

(1) a product subject to section 1610 from which a primary battery or a rechargeable battery is not easily removed or is not intended or designed to be removed from the product other than by the manufacturer;

(2) a medical device, as described in the Federal Food, Drug and Cosmetic Act, 21 United States Code, Section 321(h) (2012), if, when the device or battery within the device is discarded, it must be treated as biomedical waste or if changing the supplier of the battery contained in the medical device would trigger the need for premarket review of the device with the United Staes Food and Drug Administration pursuant to the Federal Food, Drug and Cosmetic Act, 21 United States Code, Section 360 (2012), unless such device is listed as an exempt device under 21 united States Code, Section 360 (m)(2012) or other applicable provisions of law.

G. "Discarded battery" means a covered battery that a user discarded, abandoned or sent for recycling.

H. "Operator" means a producer or covered battery stewardship organization that implements and administers a covered battery stewardship program.

I. "Participant" means a producer that establishes or participates in a covered battery stewardship program individually or by appointing and having that appointment accepted by a covered battery stewardship organization to operate the program on the producer's behalf.

J. "Primary battery" means a nonrechargeable battery that weighs 2 kilograms or less, including, but not limited to, nonrechargeable alkaline, carbon-zinc and lithium metal batteries.

K. "Producer" means, with respect to a covered battery or covered battery-containing product that is sold, offered for sale or distributed for sale in the State, the following:

(1) The person that manufactures the covered battery or covered battery-containing product and sells or offers for sale in the State that battery or product under the person's own brand;

(2) If there is no person to which subparagraph (1) applies, the owner or licensee of a brand under which the covered battery or covered battery-containing product is sold or distributed in the State; or

(3) If there is no person to which subparagraph (1) or (2) applies, a person, including, but not limited to, a wholesaler or retailer, that imports the covered battery or covered battery-containing product into the United States for sale or distribution in the State.

L. "Proprietary information" means information that is a trade secret or production, commercial or financial information the disclosure of which would impair the competitive position of the submitter and would make available information not otherwise publicly available.

M. "Rechargeable battery" means a battery that contains one or more voltaic or galvanic cells, electrically connected to produce electric energy, that weighs less than 5 kilograms and that is designed to be recharged and to provide less than 40 volts direct current. "Rechargeable battery" does not include:

(1) A battery that contains electrolyte as a free liquid; or

(2) A battery or battery pack that employs lead-acid technology, unless the battery or battery pack is sealed, contains no liquid electrolyte and is intended by its manufacturer to power a handheld device or to provide uninterrupted backup electrical power protection for consumer covered battery-containing products or stationary office equipment.

N. "Recycling" means any process through which a discarded covered battery or its components or by-products is transformed from its original identity or form into new usable or marketable material. "Recycling" does not include the incineration of a discarded covered battery or its components or by-products for energy recovery.

O. "Retailer" means a person that sells or offers a covered battery or covered battery-containing product for retail sale, as defined in Title 36, section 1752, subsection 11, in the State, including through a remote offering

for sale, such as a sales outlet or sales catalog or via the Internet.

P. "Stewardship organization" means an organization appointed by more than one producer to design, submit a plan for, implement, and administer a battery stewardship program in accordance with this section.

Q. "Wholesaler" means a person that offers for sale or sells in the State a covered battery or covered battery-containing product in a sale that is not a retail sale, as defined in Title 36, section 1752, subsection 11, with the intention that the battery or product be resold.

2. Product labeling. By January 1, 2020, a producer that sells, offers for sale or distributes for sale in the State a covered battery, either as a replacement battery or packaged with or contained in a covered battery-containing product, shall, to the extent feasible, ensure that the covered battery is labeled in a manner identifying the chemistry employed in storing energy in the battery to facilitate sorting of discarded batteries by recyclers.

3. Submission of plan. No later than 6 months after the effective date of this section, except as specified in subsection 6 or 10, each producer of a covered battery or covered battery-containing product, individually or through a battery stewardship organization, shall submit a plan for the establishment of a battery stewardship program to the commissioner for approval. The plan must include, at a minimum and where applicable:

A. Identification and contact information for:

(1) The individual or entity submitting the plan;

(2) All producers participating in the battery stewardship program;

(3) A listing of the brands and the owners of the brands covered by the program; and

(4) If a stewardship organization, a description of the organization and the tasks to be performed by the organization. The description must include information on how the organization is organized, including administration and management of the organization;

B. A description of the collection system, including:

(1) The types of sites or other collection services to be used, including as applicable a description of how the program may use covered battery collection points that are established through other battery collection services;

(2) A description of how the program will provide convenient, free statewide collection opportunities for discarded batteries adequate to serve the needs of all entities;

(3) The criteria to be used by the program in determining whether an entity may serve as a collection location for covered batteries under the program. The plan must allow all retailers, wholesalers, municipalities, solid waste management facilities and other entities that meet such criteria to voluntarily serve as a collection location; and

(4) A description of how the convenience and adequacy of the collection system will be monitored and maintained;

C. Information on how discarded covered batteries will be safely and securely transported, tracked and handled from collection through final disposition;

D. The names and locations of recyclers, processors and disposal facilities that may be used by the product stewardship program, and a description of the methods that will be used to ensure that the components of the discarded batteries are recycled to the maximum extent practicable or otherwise responsibly managed;

E. A description of how the amount of product and product components collected, recycled, processed, reused and disposed of will be measured;

F. A description of the education and outreach methods that will be used to establish, train and monitor collection sites, and to encourage participation by collection sites and consumers throughout the state on an on-going basis;

G. A description of how program performance will be assessed, including performance goals that include, at a minimum, at least 50% of Maine residents knowing how to recycle their covered batteries in the third year of program implementation and 80% in the sixth year of program implementation;

H. An anticipated budget for the program, broken down into administrative, collection, transportation, disposition, and communication costs. The annual budget must fund a minimum ½-time person dedicated to implementing the program in Maine, and funds to reimburse the department for its costs incurred in implementing the program. The budget must not include costs for legal fees or costs related to legislative efforts.

I. If the plan is submitted by an organization, a description of the financing method through which implementation of the plan will be funded. The financing method must:

(1) Allocate to producers of primary batteries and primary battery-containing products costs that are directly attributable to the collection, transportation and recycling of primary batteries, such as reclamation costs;

(2) Allocate to producers of small rechargeable batteries and rechargeable battery-containing products costs that are directly attributable to the collection, transportation and recycling of rechargeable batteries, such as reclamation costs; and

(3) Allocate all other costs on the basis of the weights of types of batteries collected or some other nondiscriminatory basis acceptable to participating producers of primary batteries, small rechargeable batteries, primary battery-containing products and rechargeable battery-containing products.

4. Approval of plan. The commissioner shall review a plan submitted under subsection 3 and make a determination of whether to approve the plan within 90 days of receipt of the plan. In conducting a review of a submitted plan, the commissioner may consult with producers, associations representing producers, covered battery stewardship organizations, retailers and recyclers.

A. If the commissioner determines that a submitted plan fails to meet all applicable requirements of subsection 3, the commissioner shall provide to the producer or organization that submitted the plan a written notice of determination describing the reasons for rejecting the plan. No later than 45 days after receiving a written notice of determination from the commissioner rejecting a submitted plan, the producer or organization may amend the plan and resubmit the plan to the commissioner for reconsideration. The commissioner shall review an amended plan, make a determination of whether to approve the amended plan and provide a written notice of determination notifying the producer or organization of the commissioner's decision within 45 days of receipt of the amended plan. A producer or organization whose amended plan is rejected by the commissioner may appeal the commissioner's decision in accordance with section 346.

B. If the commissioner approves a submitted plan, the commissioner shall provide to the producer or organization that submitted the plan a written notice of determination of the plan's approval. No later than 30 days after receiving a written notice of determination from the commissioner approving a submitted plan, the producer or organization shall make the approved plan available on its publicly accessible website, but is not required to make available any information contained in the approved plan protected under the Uniform Trade Secrets Act.

C. No later than 45 days after the commissioner's approval of a submitted plan, the department shall make available on its publicly accessible website a list of participants in and brands of covered batteries and covered battery-containing products included under the approved plan or provide instructions on how to obtain such information as provided by the producer or organization that submitted the approved plan.

5. Implementation of plan. A producer or organization that submitted a plan approved by the commissioner under subsection 4 shall implement the plan no later than the first day of the next calendar quarter after the date the plan is approved by the commissioner, except that if the period of time between the date the plan is approved and the first day of the next calendar quarter is less than 60 days, the producer or organization shall implement the plan within 60 days after the date the plan is approved.

6. Amendment of plan and termination of program. This subsection governs amendment of a plan approved under subsection 4 and termination of a program established under an approved plan.

A. An approved plan under subsection 4 may be amended at the discretion of the producer or organization that submitted the plan without approval from the commissioner if the proposed amendments are non-substantive and do not significantly alter the likelihood that the plan will result in the successful collection and recycling of discarded batteries. The producer or organization shall at the beginning of each calendar quarter notify the department of any amendments made to the approved plan in the previous calendar quarter that are non-substantive and do not significantly alter the likelihood that the plan will result in the successful collection and recycling of discarded batteries.

B. If proposed amendments to an approved plan are substantive and would significantly alter the likelihood that the plan will result in the successful collection and recycling of discarded batteries, including, but not limited to, amendments eliminating a substantial number of retail collection locations, adding or deleting battery chemistries to be collected, addressing threats to the financial viability of the organization or addressing disruption in transportation or service affecting the ability of the producer or organization or any service providers to collect or process covered batteries or covered battery-containing products, the producer or organization shall submit to the commissioner a revised plan describing the proposed amendments. The commissioner shall review the revised plan and make a determination of whether to approve the proposed amendments, in whole or in part, within 90 days of receipt of the revised plan. If the commissioner determines that the revised plan fails to meet all applicable requirements of subsection 3, the commissioner shall provide to the producer or organization a written notice of determination describing the reasons for rejecting the revised plan. No later than 45 days after receiving a written notice of determination from the commissioner rejecting a revised plan, the producer or organization may amend and resubmit the revised plan to the commissioner for reconsideration. The commissioner shall review an amended revised plan, make a determination of whether to approve the amended revised plan and provide a written notice of determination notifying the producer or organization of the commissioner's decision within 45 days of receipt of the amended revised plan. Review and consideration by the commissioner of a revised plan under this paragraph, including whether the commissioner will hold a hearing on the revised plan, shall be conducted in accordance with the department's rules concerning the processing of applications and other administrative matters. A producer or organization whose revised plan is rejected by the commissioner may appeal the commissioner's decision in accordance with section 346.

C. A producer or organization that submitted a plan approved under subsection 4 may terminate the program implementing that plan no earlier than 90 days after providing notice to the commissioner and to program participants of the program's termination. Prior to the termination of a program, each producer included in the program shall, individually or through a covered battery stewardship organization that has agreed to act on the producer's behalf, submit a plan for the establishment of a covered battery stewardship program to the commissioner for approval consistent with subsection 3 or join an existing organization.

D. A plan approved under subsection 4 remains in effect until a revised plan is adopted in accordance with paragraph B or the program implementing that plan is terminated in accordance with paragraph C by the producer or organization that submitted the plan.

7. Collection locations. This subsection applies to collection locations.

A. A retailer, a wholesaler, a municipality, a solid waste management facility and any other private or public entity may voluntarily serve as a collection location for discarded batteries under an approved and implemented program, so long as the operator of the program determines that the collection location meets

the criteria for collection locations established under the program's approved plan.

B. The participants in a program must fully underwrite the costs of battery collection containers provided to each collection location established under the program, including the costs of all materials necessary to comply with the safe collection requirements of subsection 12, as well as the costs of pickup and transportation of discarded batteries from each collection location, and may not charge a collection location for such items or services.

C. An entity serving as a collection location shall not be required to make available more than one battery collection container at a single location.

D. An entity serving as a collection location may not refuse collection of batteries based on the brand or brands of the batteries. The operator of the program may not refuse the pickup or transfer of collected batteries from a collection location based on the brand or brands of the batteries collected.

E. An entity serving as a collection location may not charge consumers any fee relating to the collection of discarded batteries at the collection point. An entity serving as a collection location may not impose any fee on the operator of the program as a condition of voluntarily agreeing to serve as a collection location.

8. Sales prohibition. This subsection governs the sale of covered batteries and covered battery-containing products in the State.

A. Beginning July 1, 2020, a manufacturer, distributor, wholesaler or retailer may not sell, offer for sale, distribute for sale or offer for promotional purposes in the State a covered battery or covered battery-containing product unless the producer of the battery or product has joined an existing covered battery stewardship organization or submitted a plan for the establishment of a covered battery stewardship program that has been approved by the commissioner.

B. Notwithstanding paragraph A, a manufacturer, distributor, wholesaler or retailer may continue to sell, distribute for sale, offer for sale or offer for promotional purposes in the State a covered battery or covered battery-containing product manufactured prior to July 1, 2020, but shall:

(1) By October 1, 2020, sell or otherwise divest or dispose of its remaining stock of covered batteries manufactured prior to July 1, 2020 by a producer that has not joined an existing covered battery stewardship organization or submitted a plan for the establishment of a covered battery stewardship program that has been approved by the commissioner; and

(2) By October 1, 2021, sell or otherwise divest or dispose of its remaining stock of covered battery-containing products manufactured prior to July 1, 2020 by a producer that has not joined an existing covered battery stewardship organization or submitted a plan for the establishment of a covered battery stewardship program that has been approved by the commissioner.

C. Notwithstanding paragraphs A and B, beginning July 1, 2021 , a manufacturer, distributor, wholesaler or retailer of medical devices, as described in the Federal Food, Drug and Cosmetic Act, 21 United States Code, Section 321(h) (2012), may not sell, offer for sale, distribute for sale or offer for promotional purposes in the State a medical device containing batteries not included in a plan approved under subsection 4, except that a manufacturer, distributor, wholesaler or retailer may continue to sell, distribute for sale, offer for sale or offer for promotional purposes in the State a medical device manufactured prior to July 1, 2021, but shall, by October 1, 2022, sell or otherwise divest or dispose of its remaining stock of medical devices containing batteries manufactured prior to July 1, 2021 by a producer that has not joined an existing covered battery stewardship organization or submitted a plan for the establishment of a covered battery stewardship program that has been approved by the commissioner. Notwithstanding subsection 1, paragraph L, prior to July 1, 2022, a manufacturer, distributor, wholesaler or retailer of medical devices shall not be considered a producer under this section.

D. Notwithstanding paragraphs A, B or C, a hospital or other health care provider may until July 1, 2027

continue to sell or otherwise exhaust its existing inventory of medical devices containing batteries manufactured prior to July 1, 2020 and not included in a plan approved under subsection 4.

9. Producer exclusions. Notwithstanding subsection 1, paragraph K, a person that manufactures, sells, offers for sale or imports for sale in the State a covered battery-containing product is not considered a producer under this section if, no later than 45 days after receiving a request from the commissioner or an operator, the person:

A. Verifies to the commissioner or the operator that the product only contains batteries with visible, permanent labels clearly identifying the producer or brand of the batteries, that the battery is easily removed and that the producer or brand is a participant in or covered under the operator's program; and

B. Identifies the chemistry type of the batteries contained in the product and provides data on the estimated weight of batteries contained in the products sold in the State. In January of each year thereafter, the person shall notify the commissioner or the operator as to any changes to the chemistry type of the batteries contained in the product or the estimated weights of batteries contained in the products sold in the State.

An operator of a covered battery stewardship program that includes the covered battery contained in the person's covered battery-containing product shall list the person as a participant in and the product as covered under the operator's program. If the producer of the covered battery contained in the person's covered battery-containing product subsequently terminates its participation in a covered battery stewardship program in the State, or if the person ceases to use covered batteries in its covered battery-containing product that are produced by a participant in or are covered under an existing covered battery stewardship program in the State, the person shall be considered a producer under subsection 1, paragraph L, and must join an existing covered battery stewardship organization or submit a plan for the establishment of a covered battery stewardship program and have that plan approved by the commissioner.

10. New producers. A producer who seeks to sell, offer for sale or distribute for promotional purposes in the State a covered battery or covered battery-containing product not sold or offered for sale in the State prior to July 1, 2020 must notify the commissioner prior to the sale, offer for sale or distribution of the covered battery or covered battery-containing product in the State.

A. Upon receiving notification under this subsection from a new producer, the commissioner shall list the producer as a new producer on the department's publicly accessible website.

B. No later than 90 days following a new producer's notification to the commissioner, the producer shall submit a plan to the commissioner in accordance with subsection 3 or join an existing organization operating under a plan approved under subsection 4.

C. If a new producer fails to submit a plan or join an existing organization within the 90-day period under paragraph B, the producer may not sell a covered battery or covered battery-containing product in the State after the expiration of the 90-day period and a retailer may not sell that producer's battery or product in the State after 120 days following the expiration of the 90-day period.

D. Notwithstanding paragraph C, if a new producer submits a plan within the 90-day period under paragraph B and that plan is ultimately rejected by the commissioner under subsection 4 after the expiration of the 90-day period, the producer may not sell the covered battery or covered battery-containing product in the State after 45 days following the commissioner's final determination rejecting the submitted plan and a retailer may not sell the producer's battery or product in the State after 120 days following the commissioner's final determination rejecting the submitted plan.

A new producer that fails to submit a plan that is approved by the commissioner under subsection 4 or to join an existing organization within the time limits described in this subsection may not sell, offer for sale or distribute for promotional purposes a covered battery or covered battery-containing product not sold or offered for sale in the State prior to July 1, 2020 until the producer submits a plan for approval consistent with subsection 3 that is subsequently

approved by the commissioner or joins an existing organization.

11. Return of noncompliant products. If a plan approved under subsection 4 is subsequently determined by the commissioner not to be in compliance with this section, a producer who sells, offers for sale or distributes for sale in the State a covered battery or covered battery-containing product included in that plan shall, upon request by a retailer, designate a location to which the retailer may ship the battery or product for further handling and shall reimburse the retailer for costs incurred in shipping the battery or product to the designated location.

12. Safe collection. Any entity that collects covered batteries in the State, has a physical presence in the State and is operating under or in cooperation with a covered battery stewardship program shall ensure that all discarded covered batteries placed in its collection containers are protected from short-circuiting in accordance with applicable regulations of the federal Department of Transportation, 49 Code of Federal Regulations, Subtitle B (2015) and other applicable laws or regulations and take reasonable steps to prevent the placement of materials other than properly protected discarded covered batteries into its collection containers.

13. Reporting. By March 1st of the calendar year after the calendar year in which an approved product stewardship program is implemented, and annually thereafter, the producer or stewardship organization operating the program shall submit to the department a report describing activities carried out by the program pursuant to the plan during the previous calendar year. The report must include, at a minimum:

A. Updated contact information for the program operator and all participating producers, a list of the brands of covered batteries and covered battery containing devices for which it is responsible.

B. The weight of covered batteries collected by the program in the previous calendar year, reported to the extent feasible by:

(1) amount by county or by collection site;

(2) amount of primary batteries and amount of rechargeable batteries by chemistry type; and

(3) amount of battery-containing products.

C. The location of and contact information for each collection point established under the program, and an assessment of the convenience of collection;

D. A description of the manner in which collected covered batteries and covered battery-containing products were sorted, consolidated and processed by the program;

E. A description of the methods and materials used for education and outreach, and an evaluation of the effectiveness of education and outreach efforts. Every 2 years, the report must include the results of an assessment of consumer awareness of the program completed by an independent 3rd party;

F. A financial report on the program, including: the total cost of implementing the program, as determined by an independent financial audit, including a breakdown of administrative, collection, transportation, disposition and communication costs; and an anticipated budget for the next program year; and

G. Any recommendations for changes to the product stewardship program to improve convenience of collection, consumer education and program evaluation.

14. Proprietary information. Proprietary information submitted to the department in a covered battery stewardship plan, in an amendment to a plan or pursuant to the reporting requirements of this section that is identified by the submittor as proprietary information is confidential and must be handled by the department in the same manner as confidential information is handled under section 1310-B.

15. Administration and enforcement of program. The department shall enforce this section and may adopt rules consistent with this section as necessary for the purpose of implementing, administering and enforcing this section. Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375,

subchapter 2-A.

A. The department shall charge a reasonable fee to be paid by an applicant for review and approval of a covered battery stewardship plan. Fees established under this paragraph must be based on the actual costs to the department of reviewing and approving a covered battery stewardship plan and may not exceed $25,000.

B. The department may establish a reasonable annual fee, to be paid by the operator of each covered battery stewardship program, to cover the department's costs for annual report review, oversight, administration and enforcement of the program. Fees established under this paragraph must be based on the actual costs to the department of annual report review, oversight, administration and enforcement of the program and may not exceed $50,000 per year.

16. Limited private right of action. Except as provided in paragraph D, a nonprofit covered battery stewardship organization recognized by the United States Internal Revenue Service as exempt from taxation under Section 501 of the United States Internal Revenue Code, as amended, that has spent at least $250,000 transporting, collecting and recycling covered batteries in the State in the previous calendar year, may maintain a civil action in Superior Court against one or more producers not participating in the organization's program to recover a portion of the organization's costs and additional sums, as set forth in this subsection.

A. Damages recoverable under this subsection shall be a fair share of the actual costs incurred by the plaintiff organization in collecting covered batteries of a defendant producer discarded in the State for which the defendant producer was required under this section to submit and implement a covered battery stewardship plan or join an existing covered battery stewardship program, as well as the plaintiff organization's costs incurred in handling, transporting and recycling or properly disposing of such batteries. Additional amounts recoverable under this subsection shall include an award of reasonable attorney's fees and court costs, including expert witness fees, and, if a defendant producer did not operate or participate in a covered battery stewardship program established under this section during the time period in which covered batteries of the defendant producer were collected in the State, transported and recycled by the plaintiff organization, a punitive sum of 3 times the damages award shall be assessed.

B. In an action by a plaintiff organization against a defendant producer that did not operate or participate in a covered battery stewardship program established under this section during the time period in which covered batteries of the defendant producer were collected, transported and recycled by the plaintiff, the plaintiff may establish the defendant's fair share of the plaintiff's actual costs by:

(1) Providing the court with market share data that the court finds reasonably represents the percentage of sales by the defendant into the State;

(2) Providing the court with data generated from discarded battery sorts involving a minimum of 500 pounds of discarded covered batteries collected at each of 3 or more collection locations in the State that are found by the court to have been collected in an unbiased manner and to be reasonably representative of the population of the State; or

(3) Through any other method that the court finds reliable in establishing the defendant's fair share of the plaintiff's actual costs.

C. In an action by a plaintiff organization against a defendant producer that operated or participated in a covered battery stewardship program established under this section during the time period in which covered batteries of the defendant producer were collected, transported and recycled by the plaintiff, the plaintiff may establish the defendant's fair share of the plaintiff's actual costs by providing the court with data establishing the relative weight of discarded covered batteries collected by the plaintiff for which the defendant was required under this section to collect, transport and recycle under a covered battery stewardship program compared to the weight of other discarded covered batteries collected by the plaintiff. This data may be generated by the plaintiff:

(1) Through the collection of data from discarded battery sorts involving a minimum of 500 pounds of discarded covered batteries collected at each of 3 or more collection locations in the State that are found by the court to have been collected in an unbiased manner and to be reasonably representative of the population of the State;

(2) Through an analysis of actual collections by the organization that is found by the court to be reasonably representative of total actual collections in the State; or

(3) Through any other method that the court finds reliable in establishing the defendant's fair share of the plaintiff's actual costs.

D. An action may not be commenced under this subsection against any potential defendant until 60 days after a plaintiff provides to all potential defendants a written notice of the claim setting forth the amount of the claim and the basis for the calculation of that amount.

E. No action may be brought under this subsection against a retailer or franchisor of retail outlets that was operating or participating in a covered battery stewardship program established under this section, individually or on behalf of its franchisees, to recover costs or additional sums incurred during a time period in which covered batteries were collected, transported and recycled by the retailer or franchisor.

F. The department shall not be a party to or be required to provide assistance or otherwise participate in a civil action authorized under this subsection unless subject to a subpoena before a court of jurisdiction.

17. Preemption. The State intends to occupy and preempt the entire field of legislation concerning the regulation of the stewardship of covered batteries and covered battery-containing products. Any existing or future order, ordinance, rule or regulation in this field of any political subdivision of the State is void.

18. Antitrust exclusions. A producer, a group of producers and a covered battery stewardship organization, and an agent, officer, director and employee of such entities, preparing, submitting a plan for, implementing or administering a covered battery stewardship program in accordance with this section, and a wholesaler and retailer that engages in conduct authorized by this section, are granted immunity, individually and jointly, from all applicable antitrust laws of the State for the limited purpose of establishing, implementing and administering a covered battery stewardship program and otherwise complying with the requirements of this section, and any activity undertaken by these entities in accordance with and authorized under this section is not an unlawful restraint of trade, a conspiracy or other violation of any provision of any applicable antitrust law of the State.

An action taken by a producer, a group of producers or an organization to increase the recycling of covered batteries in accordance with this section that affects the types or quantities of batteries recycled or the cost and structure of any covered battery stewardship program is not a violation of any provision of Title 10, chapter 201, except when such action constitutes an agreement establishing or affecting the price of covered batteries or the output or production of covered batteries or restricting the geographic area in which covered batteries will be sold or the customers to whom covered batteries will be sold.

Sec. 2. 38 MRSA §2165 sub-4 is repealed: Repealed.

~~**4. Manufacturer responsibility.** A manufacturer of dry cell mercuric oxide or rechargeable batteries that are subject to subsection 1 shall:~~

~~A. Establish and maintain a system for the proper collection, transportation and processing of waste dry cell mercuric oxide and rechargeable batteries for purchasers in this State;~~

~~B. Clearly inform each purchaser that intends to use these batteries of the prohibition on disposal of dry cell mercuric oxide and rechargeable batteries and of the available systems for proper collection, transportation and processing of these batteries;~~

~~C. Identify a collection system through which mercuric oxide and rechargeable batteries must be returned to the manufacturer or to a manufacturer-designated collection site; and~~

~~D. Include the cost of proper collection, transportation and processing of the waste batteries in the sales transaction or agreement between the manufacturer and any purchaser.~~

Appendix D – Proposed changes to Maine's Bottle Bill law

An Act to Improve Maine's Container Redemption Law

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 MRSA § 352. Fees Table II is amended to read:

3109, Redemption centers	Annual Processing Fee	Annual Licensing Fee
	$0	$100

Sec. 2. 38 MRSA §3102 sub-13 is amended, and subs- 16-A and 17-A are enacted to read**:**

13. **Manufacturer.** "Manufacturer" means a person who ~~bottles, cans or otherwise places beverages in beverage containers for sale to distributors or dealers.~~: offers beverages for sale in or into Maine under its brand or label or licenses other entities to offer beverages for sale in or into Maine under its brand or label, or imports a beverage into the United States that is manufactured by a person without a presence in the United States; and an out-of-state wholesaler of liquor that holds a certificate of approval in accordance with Maine law under Title 28-A.

16-A. Pick-up agent. "Pick-up agent" means the initiator of deposit, distributor, or contracted agent that receives and transports redeemed beverage containers from licensed redemption centers to recycling.

17-A. Proprietary information. "Proprietary information" means information that is a trade secret or production, commercial or financial information the disclosure of which would impair the competitive position of the submitter and which is not otherwise publicly available.

Sec. 3. 38 MRSA §3105 sub-5 is amended to read:

5. **Label registration.** An initiator of deposit shall register the container label of any beverage offered for sale in the State on which it initiates a deposit. Registration must be on forms or in an electronic format provided by the department and must include the universal product code for each combination of beverage and container manufactured. The initiator of deposit shall renew a label registration annually and whenever that label is revised by altering the universal product code or whenever the container on which it appears is changed in size, composition or glass color. The initiator of deposit shall also include as part of the registration the method of collection for that type of container, identification of a collection agent, identification of all of the parties to a commingling agreement that applies to the container and proof of the collection agreement. The department may charge a fee for registration and registration renewals under this subsection. ~~Rules adopted pursuant to this subsection that establish fees are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A and subject to review by the joint standing committee of the Legislature having jurisdiction over environmental and natural resources matters.~~

Sec. 4. 38 MRSA §3106 sub-5 is amended to read:

1. **Dealer acceptance.** Except as provided in this section, a dealer operating a retail space of 5000 square feet or more may not refuse to accept from any consumer or other person not a dealer any empty, unbroken and reasonably clean beverage container ~~of the kind, size and brand sold by the dealer~~, or refuse to pay in cash the refund value of the returned beverage container as established by section 3103 unless that dealer has a written agreement with a local redemption center within 1 roadway mile to provide redemption services on behalf of that dealer . This section does not require an operator of a vending machine to maintain a person to accept returned beverage containers on the premises where the vending machine is located.

~~**2. Permissive refusal by dealer.** A dealer may refuse to accept from a consumer or other person and to pay the refund value on any beverage container, if the place of business of the dealer and the kind, size and brand of beverage container are included in an order of the department approving a redemption center under section 3109.~~

…

6. Obligation to preserve recycling value. Notwithstanding subsection 8, a distributor or its agent may refuse to accept, or pay the refund value and handling costs to a dealer, redemption center or other person for, a beverage container that has been processed by a reverse vending machine in a way that has reduced the recycling value of the container below current market value. This subsection may not be interpreted to prohibit a written processing agreement between a distributor and a dealer or redemption center and does not relieve a distributor of its obligation under subsection 8 to accept empty, unbroken and reasonably clean beverage containers. The department shall adopt rules to establish the recycling value of beverage containers under this subsection and the rules may authorize the use of a 3rd-party vendor to determine if a beverage container has been processed by a reverse vending machine in a manner that has reduced the recycling value below current market value. The rules must outline the method of allocating among the parties involved the payment for 3rd-party vendor costs. ~~Rules adopted under this subsection are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A.~~

7. Reimbursement of handling costs. Reimbursement of handling costs is governed by this subsection.

A. In addition to the payment of the refund value, the initiator of the deposit under section 3103, subsections 1, 2 and 4 shall reimburse the dealer or local redemption center for the cost of handling beverage containers subject to section 3103, in an amount that equals at least 3¢ per returned container for containers picked up by the initiator before March 1, 2004, at least 3 1/2¢ for containers picked up on or after March 1, 2004 and before March 1, 2010 and at least 4¢ for containers picked up on or after March 1, 2010. The initiator of the deposit may reimburse the dealer or local redemption center directly or indirectly through a party with which it has entered into a commingling agreement.

B. In addition to the payment of the refund value, the initiator of the deposit under section 3103, subsection 3 shall reimburse the dealer or local redemption center for the cost of handling beverage containers subject to section 3103 in an amount that equals at least 3¢ per returned container for containers picked up by the initiator before March 1, 2004, at least 3 1/2¢ for containers picked up on or after March 1, 2004 and before March 1, 2010 and at least 4¢ for containers picked up on or after March 1, 2010. The initiator of the deposit may reimburse the dealer or local redemption center directly or indirectly through a contracted agent or through a party with which it has entered into a commingling agreement.

C. The reimbursement that the initiator of the deposit is obligated to pay the dealer or redemption center pursuant to paragraph A or B must be reduced by 1/2¢ for any returned container that is ~~subject to~~ managed in accordance with a qualified commingling agreement that allows the dealer or redemption center to commingle beverage containers of like ~~product group,~~ material ~~and size. A commingling agreement is qualified for purposes of this paragraph if the department determines that 50% or more of the beverage containers of like product group, material and size for which the deposits are being initiated in the State are covered by the commingling agreement or that the initiators of deposit covered by the commingling agreement are initiators of deposit for wine containers who each sell no more than 100,000 gallons of wine or 500,000 beverage containers that contain wine in a calendar year. Once the initiator of deposit has established a qualified commingling agreement for containers of a like product group, material and size, the department shall allow additional brands to be included from a different product group if they are of like material.~~ The State, through the Department of Administrative and Financial Services, Bureau of Alcoholic Beverages and Lottery Operations, ~~shall make every reasonable effort to enter into~~ may operate as a qualified commingling agreement under this paragraph ~~with every other initiator of deposit for~~ provided it allows the commingling of beverage containers that are of like ~~product group, size and~~ material ~~as the beverage containers for which the State is the initiator of deposit~~.

D. Paragraphs A, B and C do not apply to a brewer who annually produces no more than 50,000 gallons of its product or a bottler of water who annually sells no more than 250,000 containers each containing no more than one gallon of its product. In addition to the payment of the refund value, an initiator of deposit under section 3103, subsections 1 to 4 who is also a brewer who annually produces no more than 50,000 gallons of its product or a bottler of water who annually sells no more than 250,000 containers each containing no more than one

gallon of its product shall reimburse the dealer or local redemption center for the cost of handling beverage containers subject to section 3103 in an amount that equals at least 3 1/2¢ per returned container.

8. **Obligation to pick up and recycle containers.** The obligation to pick up and recycle beverage containers subject to this chapter is determined as follows.

A. A distributor that initiates the deposit under section 3103, subsection 2 or 4 has the obligation to pick up and recycle any empty, unbroken and reasonably clean beverage containers of the particular kind, size and brand sold by the distributor from dealers to whom that distributor has sold those beverages and from licensed redemption centers ~~designated to serve those dealers pursuant to an order entered under section 3109~~. A distributor that, within this State, sells beverages under a particular label exclusively to one dealer, which dealer offers those labeled beverages for sale at retail exclusively at the dealer's establishment, shall pick up any empty, unbroken and reasonably clean beverage containers of the kind, size and brand sold by the distributor to the dealer only from those licensed redemption centers that enter into a written agreement to provide redemption services for ~~serve the various establishments of~~ the dealer~~, under an order entered under section 3109~~. A dealer that manufactures its own beverages for exclusive sale by that dealer at retail has the obligation of a distributor under this section. The commissioner may establish by rule, in accordance with the Maine Administrative Procedure Act, criteria prescribing the manner in which distributors shall fulfill the obligations imposed by this paragraph. The rules may establish a minimum number or value of containers below which a distributor is not required to respond to a request to pick up empty containers. Any rules adopted under this paragraph must allocate the burdens associated with the handling, storage and transportation of empty containers to prevent unreasonable financial or other hardship.

B. The initiator of the deposit under section 3103, subsection 3 has the obligation to pick up any empty, unbroken and reasonably clean beverage containers of the particular kind, size and brand sold by the initiator from dealers to whom a distributor has sold those beverages and from licensed redemption centers designated to serve those dealers pursuant to an order entered under section 3109 and to ensure the containers are recycled. The obligation may be fulfilled by the initiator directly or indirectly through a contracted agent.

C. An initiator of the deposit under section 3103, subsection 2, 3 or 4 has the obligation to pick up and recycle any empty, unbroken and reasonably clean beverage containers that are commingled pursuant to a commingling agreement along with any beverage containers that the initiator is otherwise obligated to pick up pursuant to paragraphs A and B.

D. The initiator of deposit or initiators of deposit who are members of a commingling agreement have the obligation under this subsection to pick up and recycle empty, unbroken and reasonably clean beverage containers of the particular kind, size and brand sold by the initiator from dealers to whom a distributor has sold those beverages and from licensed redemption centers ~~designated to serve those dealers~~ every 15 days. The initiator of deposit or initiators of deposit who are members of a commingling agreement have the obligation to make additional pickups when a redemption center has collected 10,000 beverage containers from that initiator of deposit or from the initiators of deposit who are members of a commingling agreement.

The obligations of the initiator of the deposit under this subsection may be fulfilled by the initiator directly or through a party with which it has entered into a commingling agreement. A contracted agent hired to pick up beverage containers for one or more initiators of deposit is deemed to have made a pickup at a redemption center for those initiators of deposit when it picks up beverage containers belonging to those initiators of deposit.

9. **Plastic bags.** A dealer or redemption center has an obligation to pick up plastic bags that are used by that dealer or redemption center to contain beverage containers. Plastic bags used by a dealer or redemption center and the cost allocation of these bags must conform to rules adopted by the department concerning size and gauge. ~~Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.~~

Sec. 5. 38 MRSA §3107 is amended to read:

Notwithstanding any other provision of this chapter to the contrary, 2 or more initiators of deposit may enter into a commingling agreement through which some or all of the beverage containers for which the initiators have initiated deposits may be commingled by dealers and operators of redemption centers as provided in this section.

The department shall determine that a commingling agreement is qualified for purposes of this chapter when: 50% or more of the beverage containers of like product group, material and size for which the deposits are being initiated in the State are covered by the commingling agreement; the initiators of deposit covered by the commingling agreement are initiators of deposit for wine containers who each sell no more than 100,000 gallons of wine or 500,000 beverage containers that contain wine in a calendar year; or commingling is implemented under the terms of a plan submitted and approved in accordance with paragraph 5.

An initiator of deposit that enters into a commingling agreement pursuant to this section shall permit any other initiator of deposit to become a party to that agreement on the same terms and conditions as the original agreement. Once the initiator of deposit has established a qualified commingling agreement, the department shall allow additional brands to be included from a different product group if they are of like material.

1. **Commingling requirement.** If initiators of deposit enter into a commingling agreement pursuant to this section, commingling of beverage containers must be by all containers of like product group, material and size. An initiator of deposit required pursuant to section 3106, subsection 8 to pick up beverage containers subject to a commingling agreement also shall pick up all other beverage containers subject to the same agreement. The initiator of deposit may not require beverage containers that are subject to a commingling agreement to be sorted separately by a dealer or redemption center.

2. **Commingling of like materials.** For purposes of this section, containers are considered to be of like materials if made up of one of the following:

A. Plastic;

B. Aluminum;

C. Metal other than aluminum; and

D. Glass.

3. **Commingling of like products.** For purposes of this section, like products are those that are made up of one of the following:

A. Beer, ale or other beverage produced by fermenting malt, wine and wine coolers;

B. Spirits;

C. Soda;

D. Noncarbonated water; and

E. All other beverages.

4. **Registration of commingling agreements.** Not later than 48 hours following the execution or amendment of a commingling agreement, including an amendment that adds an additional party to an existing agreement, the parties shall file a copy of the commingling agreement or amendment with the department.

5. Commingling by a third party or stewardship organization. An initiator of deposit may enter into an agreement for its beverage containers to be managed in a commingling program administered by a third party or through a stewardship organization as defined in chapter 18, section 1771. The third party or stewardship organization shall submit a plan to operate a commingling program to the department for review and approval as a qualified commingling agreement.

The commingling program must require redemption centers to commingle all containers of participating manufacturers by like material, and shall establish containerizing standards to provide for fair apportionment of costs among participating manufacturers, either on the basis of the total weight of containers marketed or by unit count. An initiator of deposit shall report by the 20th day of the month following the end of March, June, September and December to the administrator of the commingling program its sales of beverages into Maine for the previous three months by brand and number of nonrefillable containers sold by product size and material type, and the average container weight by material type and size. The third party or stewardship organization shall assign

financial responsibility to participating initiators of deposit based on each initiator of deposit's proportion of the total weight of beverage containers marketed in Maine by material type or on actual unit counts.

The third party or stewardship organization may require a participating initiator of deposit to provide financial assurance in the form of a deposit of no greater than the cost of beverage container deposits, container handling fees for redemption centers and any contractual fees for up to 4 months of anticipated sales in Maine. The third party or stewardship organization shall retain the deposit funds in a separate account and may use the funds to pay program costs in the event the initiator of deposit fails to pay the third party or stewardship organization for incurred costs within 90 days of invoicing.

Sec. 6. 38 MRSA §3109 is amended to read:

1. **Establishment.** Local redemption centers may be established and operated by any person or municipality, agency or regional association as defined in section 1303-C, subsection 24, subject to the approval of the commissioner, to serve local dealers and consumers, at which consumers may return empty beverage containers as provided under section 3106.

2. **Application for approval.** Application for approval of a local redemption center must be filed with the department. The application must state the name and address of the person responsible for the establishment and operation of the center, ~~the kinds, sizes and brand names of beverage containers that will be accepted and~~ the names and addresses of each dealer~~s~~ with whom the redemption center has entered into a written agreement to provide redemption services in accordance with section 3106 sub-5 ~~be served~~ and their distances from the local redemption center, and a statement that the local redemption center will accept and manage all beverage containers registered in accordance with section 3105.

3. **Approval.** The commissioner may approve the licensing of a local redemption center if the redemption center complies with the requirements established under section 3113. The order approving a local redemption center license must state the dealers to be served and the kinds, sizes and brand names of empty beverage containers that the center accepts.

4. **Redemption center acceptance refund account.** A ~~local~~ licensed redemption center may not refuse to accept from any consumer or other person not a dealer any empty, unbroken and reasonably clean beverage container of the kind, size and brand sold in the state ~~by a dealer served by the center~~ as long as the label for the container is registered under section 3105, subsection 5 or refuse to pay in cash the refund value of the returned beverage container as established by section 3103. A redemption center or reverse vending machine is not obligated to count containers or to pay a cash refund at the time the beverage container is returned as long as the amount of the refund value due is placed into an account to be held for the benefit of the consumer and funded in a manner that allows the consumer to obtain deposits due within 2 business days of the time of the return.

~~**5. Posted lists.** A list of the dealers served and the kinds, sizes and brand names of empty beverage containers accepted must be prominently displayed at each local redemption center.~~

5-A. Beverage container handling. A redemption center shall tender only beverage containers sold in the state to pick-up agents in shells, shipping cartons, bags and other containers prepared to ensure accurate eligible beverage container unit counts.

6. **Withdrawal of approval.** The ~~District Court~~ department may, in a manner consistent with the Maine Administrative Procedure Act, ~~withdraw approval~~ revoke the license of a local redemption center if there has not been compliance with the approval order or if the local redemption center no longer provides a convenient service to the public.

Sec. 7. 38 MRSA §3113 sub-1, sub-2, sub-3 and sub-4 are amended, and **sub-5 and sub-6** are enacted to read:

….

1. **Procedures; licensing fees.** The department shall adopt rules establishing the requirements and procedures for issuance of licenses and annual renewals under this section, including a fee structure. Initial rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A. ~~Rules adopted effective after calendar year 2003 are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A and are subject to review by the joint standing committee of the Legislature having jurisdiction over environmental and natural resources matters.~~

2. ~~**Criteria for licensing rules**~~ **Licensing criteria.** In ~~developing rules under subsection 1 for~~ licensing redemption centers, the department shall consider at least the following:

A. The health and safety of the public, including sanitation protection when food is also sold on the premises;

B. The convenience for the public, including standards governing the distribution of centers by population or by distance, or both;

C. The proximity of the proposed redemption center to existing redemption centers and the potential impact that the location of the proposed redemption center may have on an existing redemption center;

D. The proposed owner's record of compliance with this chapter and rules adopted by the department pursuant to this chapter; and

E. The hours of operation of the proposed redemption center and existing redemption centers in the proximity of the proposed redemption center.

3. **Location of redemption centers; population requirements.** The department may grant a license to a redemption center if the following requirements are met:

A. The department may license up to 5 redemption centers in a municipality with a population over 30,000;

B. The department may license up to 3 redemption centers in a municipality with a population over 20,000 but no more than 30,000; and

C. The department may license up to 2 redemption centers in a municipality with a population over 5,000 but no more than 20,000.

For a municipality with a population of no more than 5,000, the department may license redemption centers in accordance with rules adopted by the department. ~~Rules adopted pursuant to this subsection are routine technical rules as defined in Title 5, chapter 375, subchapter 2-A.~~

4. **Exceptions.** Notwithstanding subsection 3:

A. An owner of a redemption center who is renewing the license of a redemption center licensed by the department as of April 1, 2009 need not comply with subsection 3;

B. An entity that is a ~~food establishment or~~ distributor licensed by or registered with the department need not comply with subsection 3;

C. A reverse vending machine is not considered a redemption center for purposes of subsection 3 when it is located in a licensed redemption center; and

D. The department may grant a license that is inconsistent with the requirements set out in subsection 3 only if the applicant has demonstrated a compelling public need for an additional redemption center in the municipality.

5. Initiator of deposit annual report. Each initiator of deposit shall report annually by March 1 to the department concerning its deposit transactions in the preceding calendar year. The report must be in a form prescribed by the department and must include the number of nonrefillable beverage containers sold in Maine by container size, beverage type, delineated at a minimum into wine, spirits, and all other beverages, and the number of nonrefillable beverage containers returned by redemption value**.** The report required by this subsection is proprietary information and must be handled by the department in the same manner as confidential information is handled under section 1310-B.

6. Pick-up agent annual report. Each third-party pick-up agent shall report annually by March 1 to the department on redemptions for each initiator of deposit it served in the preceding calendar year. The report must be in a form prescribed by the department and must include the number of nonrefillable containers returned by redemption value except that a third-party pick-up agent may report by the average weight and total weight of containers returned by material type for containers managed within a commingling agreement established in accordance with section 3107 sub-5.

Sec. 8. 38 MRSA §3115 is amended to read:

The department shall administer this chapter and has the authority, following public hearing, to adopt necessary rules to carry it into effect. The department may adopt rules governing local redemption centers that receive beverage containers from dealers supplied by distributors other than the distributors servicing the area in which the local redemption center is located in order to prevent the distributors servicing the area within which the redemption center is located from being unfairly penalized. Rules adopted pursuant to this chapter are routine technical rules pursuant to Title 5, chapter 375, subchapter 2-A except rules that establish or modify fees are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A and subject to review by the joint standing committee of the Legislature having jurisdiction over environmental and natural resources matters.

Sec. 9. 38 MRSA §3116 sub-2 is amended to read:

2. **Aggrieved applicants.** An applicant aggrieved by a decision made by the department may appeal the decision to the board pursuant to section 344(2-A) or by filing an appeal with the Superior Court and serving a copy of the appeal upon the department in accordance with the Maine Rules of Civil Procedure, Rule 80C. The appeal must be filed and served within 30 days of the mailing of the department's decision.

Appendix E – Proposed changes to Maine's cellular telephone law

§ Be it enacted by the People of the State of Maine as follows:

Sec. 1. 38 M.R.S. §2143 is amended to read:

1. **Definitions.** As used in this section, unless the context otherwise indicates, the following terms have the following meanings.

A. "Cellular telephone" means a mobile wireless telephone device that is designed to send or receive transmissions through a cellular radiotelephone service as defined in 47 Code of Federal Regulations, Section 22.99 (2005). "Cellular telephone" does not include a wireless telephone device that is integrated into the electrical architecture of a motor vehicle.

B. "Cellular telephone service provider" means a provider of wireless voice or data retail service.

C. "Retailer" means a person, firm or corporation that sells or offers to sell a cellular telephone to a consumer at retail.

2. **Collection system.** Effective January 1, 2008, a retailer shall accept, at no charge, used cellular telephones from any person. A retailer required to accept used cellular telephones under this subsection shall post, in a prominent location open to public view, a notice printed in boldface type and containing the following language: "We accept used cellular telephones at no charge."

3. **Disposal ban.** Effective January 1, 2008, a person may not dispose of a cellular telephone in solid waste for disposal in a solid waste disposal facility.

~~**4. Reports.** By January 1, 2009, and every year thereafter, a cellular telephone service provider shall report to the department the number of cellular telephones collected pursuant to this section and how the collected cellular telephones were disposed of, reused or recycled. Annually, the department shall report on the collection system to the joint standing committee of the Legislature having jurisdiction over natural resources matters. The report may be included in the report required pursuant to section 1772, subsection 1.~~

Appendix F – Comments received on posted report

February 13, 2019

Mr. Mike Karagiannes
Director, Bureau of Land Resources
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Mr. Karagiannes,

On behalf of the members of the Product Management Alliance (PMA), we appreciate the opportunity to express the Product Management Alliances' position on the Department of Environmental Protection's Annual Report to the Joint Standing Committee on Environment and Natural Resources, Concerning the Implement of Product Stewardship in Maine.

My name is Kevin Canan, and I serve as the Executive Director of the PMA. By way of introduction, the PMA is a coalition comprised of trade associations and corporations that represent a broad array of consumer products. Our mission is to support market-based extended producer responsibility (EPR) efforts, as well as voluntary incentives for increased recovery and sustainable products and package design. We were founded precisely as a response to the signing of LD 1631 into law in 2010, the law which compels this report.

PMA's members have long strived to voluntarily recover the products that they manufacture. The PMA understands and appreciates Maine's desire to seek ways to improve the recovery rates of goods. However, we believe that expanding current EPR programs and adding additional EPR programs for additional products, specifically the carpet and mattress industries enumerated in the report, would simply add costly and unnecessary mandates for both the state government to implement and run this program; as well as for retailers and manufacturers in Maine. These costs will ultimately be borne by taxpayers and consumers.

Additional EPR programs would set up a confusing and bureaucratic system of recovery for the residents of the state with similar types of products having very different end-of-life recovery schemes. In addition, these types of restrictive programs would likely to have a chilling effect on manufacturers and retailers doing business in Maine, and as a result business very well could be lost to neighboring states.

PMA members and businesses utilize sophisticated programs in place that continue to increase the amounts of products recovered and recycled through voluntary initiatives. Today recovery rates are at record levels, and they are continually striving to increase these numbers. The existence of these efforts illustrate that new mandates on producers are not necessary to reduce waste and increase recycling and the use of recycled content. Thus, we urge the DEP and the legislature to **strongly examine voluntary, market-based recovery efforts** for increased recovery of products and oppose any new or further expansion of EPR in the state that are enumerated in the report.

The members of the PMA, and the industries they represent, recognize the desire of the public and policymakers for environmentally responsible business practices. That is why our member companies are voluntarily involved in waste recovery programs, and support recycling where it is economically and logistically feasible.

We hope to have a positive and constructive working relationship with you.

Sincerely,

Kevin C. Canan
Executive Director

Product Management Alliance
1000 Potomac Street, NW
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Washington, DC 20015
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American Forest & Paper Association

AF&PA Comments on the Annual Product Stewardship Report
Maine Department of Environmental Protection
February 2019

The American Forest & Paper Association (AF&PA) appreciates the opportunity to comment on the 2019 Maine Annual Product Stewardship Report. AF&PA supports voluntary paper and paper-based packaging recovery efforts that seek to improve upon the existing recovery and recycling programs in Maine and the United States. AF&PA strongly believes that the voluntary recovery of paper and paper-based packaging is a recycling success story.

The AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative — *Better Practices, Better Planet 2020*. The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures nearly $300 billion in products annually and employs approximately 950,000 men and women. The industry meets a payroll of approximately $55 billion annually and is among the top 10 manufacturing sector employers in 45 states.

In Maine, the industry employs more than 15,000 individuals, with an annual payroll of over $814 million. The estimated state and local taxes paid by the forest products industry totals $91 million annually.

Comments on the Product Stewardship for Packaging Proposal

AF&PA has concerns with the findings of the report which will be examined in more detail below. We believe that the paper industry's consistently high recovery rates, and the industry's ongoing efforts to increase voluntary recovery, make mandates like an extended producer responsibility (EPR) program for paper and paper-based packaging unnecessary and potentially counterproductive. Along similar lines, consumer packaging is too broad to be considered a single product for a product stewardship program.

Product Stewardship for Paper-based Packaging is Not a Solution

Recent changes in markets for recyclable commodities due to China's import ban have fueled discussion of EPR as an attractive funding mechanism for municipal recycling programs. While on the surface, additional funding may be used to improve some aspects of recycling programs, there are multiple fallacies and negative consequences that make EPR for packaging, in particular paper packaging, a poor policy choice compared to the market driven system in effect today.

The Maine DEP report asserts that a product stewardship program for packaging will increase the recovery of materials for reuse and recycling, but this is not necessarily true. While funding could be raised to fund steps necessary to increase collection, EPR programs do not create end markets for recyclable materials. There are successful recycling programs in the state that would be disrupted,

rather than improved by the implementation of EPR. Product stewardship for packaging programs exist in other countries but whether they are more successful than our current system is widely debated. Global demand drives paper recovery, not government mandates. Global demand for recovered fiber has been growing at a rapid rate. Global recovered paper demand increased at an average rate of 1.3 percent a year from 2012 to 2017 and is expected by RISI to increase an average of 1.8 percent a year from 2017 through 2022.

Market-based paper recovery can be a model for other industries. The paper and paper-based packaging industry has set and met voluntary goals, and publicly reported on performance. The industry works with others in the private and public sectors to maximize paper recovery, the rate of which has doubled since 1990. EPR, though well-intentioned, falls short of the mark. Government can help support paper recycling's success by avoiding mandates and arbitrary rules that disrupt the current market-based system.

As history has demonstrated, the market operates efficiently when it comes to paper recovery and recycling. To impose an EPR scheme in hopes of marginal gains could be cost prohibitive and at the detriment of the success the industry has achieved. For paper and paper-based packaging, EPR could prove to be harmful and even counterproductive. The life path of paper-based packaging is not contained in one state. For instance, a box is made in one state and breakfast cereal is put into that box in a second state. The cereal is sold in a third state to a consumer living in a fourth state. It is hard to imagine logistically how a manufacturer or brand owner could be required to pay fees on the products it introduces into a global commerce stream.

Consumer Packaging is Too Broad to be Productive

Consumer packaging is a broad category of multiple packaging materials including paper, plastic, glass, aluminum and steel. Each of these materials has distinct challenges, advantages, and economics when it comes to recovery for recycling. Solutions that may work for one material do not necessarily translate to other materials. Some materials may require different strategies and financial investments. Fee proceeds from one material should not be used to subsidize recovery initiatives for other materials. Lumping all of these issues into one stewardship program makes it extremely unlikely that there could be a fair program for all participants.

The report acknowledges the difficulties in the choice between a program that shares responsibilities between manufacturers and municipalities but misses in the mark in that it does not also explore the potential difficulties of competing materials sharing the responsibility of managing recycling for the state. An EPR program holds major financial stakes for all industries impacted and measures to facilitate equitable representation of the products impacted by the program would be a necessity at minimum.

Paper Recycling is Successful

Paper recovery is an environmental success story, saving an average of 3.3 cubic yards of landfill space for each ton of paper recycled. Paper recovery has fostered a well-developed and dynamic marketplace that allows recovered fiber to find its highest value end use in manufacturing new products. That, in turn, helps encourage more recycling which part of why paper is the most-recycled material in the U.S. today. According to the U.S. Environmental Protection Agency, more

paper (by weight) is recovered for recycling from municipal solid waste streams than glass, plastic, steel and aluminum combined. 96 percent of the U.S. population had access to community curbside and/or drop-off paper recycling services, according to the most recent (2014) survey of communities.

Based on results from the 2014 Community Access Survey, 80% of Maine residents have access to community curbside recycling programs for paper & paperboard and 90% have access to community drop-off systems. While the overall paper recovery rate is at 63% or higher for each of the last nine years, for OCC in particular, the recovery rate was 88.89% for 2017 and has exceeded 80% for the last nine years.

The paper and paper-based packaging industry's commitment to maximizing recovery of its products for recycling is real and longstanding. AF&PA and its member companies have a truly outstanding record on paper recovery. In 1990, when AF&PA began setting voluntary recovery goals, the recovery rate was a little more than one-third (33.5 percent) of the paper consumed in the United States. By 2017, thanks to voluntary industry initiatives and the millions of Americans who recycle at home, work and school every day, the recovery rate has almost doubled (65.8 percent). The recovery rate has met or exceeded 63 percent for the past nine years.

Impact and Market Adjustments After China National Sword
The current disruption in mixed paper markets is partially due to an unacceptable level of quality being generated and China's abrupt ban on mixed paper imports. The disruption caused by China's import policy has created a misperception that there is a systemic problem with the recycling system. In fact, the problem is with poor-quality recyclable materials being put into the marketplace by some processing facilities, in particular by mixed-waste processing facilities.

Fortunately, recovered fiber markets are dynamic and adapting rapidly. The paper and paper-packaging industry continues to innovate and adapt to market demands to drive future success. Communities that improve the quality of the recyclable materials in their recycling steams and improve the quality of the recovered paper bales produced by their MRFs will have greater success in recovered paper markets. Investing in improving consumers' recycling behavior and improving collection are needed steps that were made clearer in the wake of the implementation of China National Sword.

Product stewardship is not the answer to China's import policy and will not drive increased domestic consumption of recovered fiber. Instead of bringing in more capacity to handle the increase volume available, it will add another cost to already burdened paper mills in Maine.

Recovered paper consumption at domestic paper and paperboard mills increased in 2017 and during four of the past five years, rising more than four percent from 2012 to 2017. These increases were achieved even while U.S. paper and paperboard production declined three percent during that period. The fact is that quality matters and recovered fiber that meets the grade and quality requirements of mills is purchased while fiber that doesn't meet the requirements is not.

Opportunities to Improve Recovery
As an alternative to a product stewardship for packaging program, Maine should focus on hard-to-

recycle materials where there may not yet be a well-developed collection infrastructure or good recovery results. With a well-developed infrastructure for collecting paper and paper-based packaging, to increase recovery Maine should increase consumer education to drive increased participation across the entire supply chain.

The industry works with others in the private and public sectors to maximize paper recovery, with the obvious result that we have doubled our recovery rate since 1990. For example, AF&PA is an inaugural founder of The Recycling Partnership which creates public-private partnerships that promote voluntary recovery and increases communities' capability to improve the quality and quantity of recyclable materials produced by community materials recovery facilities. While the report finds the contributions (recycling carts for Portland) of the Partnership insufficient, there are potentially additional resources that are being underutilized by municipalities, such as the free Contamination kits that include tools and resources to improve the quality of what MRFs are collecting- facilitating behavior change through consumer education.

AF&PA also produces our own resources on recycling better- with recycling guides specific to the workplace, schools and the community and a guide on shredding and recycling important documents. The Responsible Package is a recycling curriculum that includes classroom activities, family take-home materials and a family recycling pledge to raise awareness about paper and paper-based packaging recycling and reuse. By targeting students in fifth grade (ages 10-11), along with their families and teachers, our program encourages students to be agents of change in their homes and schools to increase recovery through smart recycling. Jointly funded by paper-based packaging associations including AF&PA, the Carton Council, Fibre Box Association, PSSMA, TAPPI and AICC; The Responsible Package aims to reach 525,000 students around the country in 2019, an increase from 313,000 in 2018.

Conclusion

AF&PA believes responsibility for materials recovery must be shared across the entire supply chain and include consumers. The paper industry is doing its part by meeting or exceeding voluntary recovery goals for our products. We urge you to consider promoting increased participation in community recycling programs as an alternative to a product stewardship program for paper-based packaging. We hope that by sharing this information, any plan or legislation drafted to regulate the production and use of paper-based packaging will be based on sound policy to the benefit of the environment and best practices for doing business in the state.

We look forward to continuing our work with the state of Maine. Please feel free to contact Abigail Turner Sztein, Director, State Government Affairs, AF&PA at (202) 463-2596 or abigail_sztein@afandpa.org for further information.

February 14, 2019
Director Paula Clark
Division of Materials Management
August, Maine 04333

Re: American Chemistry Council comments to the Annual Product Stewardship Report

Dear Director Clark,

The American Chemistry Council (ACC) provides the following comments to the Annual Produce Stewardship Report to the Joint Standing Committee on the Environment and Natural Resources. ACC represents leading manufacturers of plastic resins[1] and we strive to be an expert resource on innovative plastics recycling and recovery programs and educational and outreach programs to improve plastics recycling and recovery nationwide.[2] ACC has a strong interest in sustainable materials management (SMM), plastics sustainability and recovery.[3]

We commend the Committee for seeking to improve the performance of its packaging recycling and to fully utilize the value of materials that are currently being wasted in landfills. At the same time, we do not believe that the mandatory extended producer responsibility is the best way to achieve these shared goals. Reliance on EPR can lead to an overemphasis on recycling to the exclusion of source reduction and the implementation of a true "sustainable materials management" system that uses life cycle analysis to better understand environmental impacts such as waste prevention and the use of energy, water and greenhouse gas emissions. We welcome the opportunity to work with Maine to grow plastics recycling and recovery and we encourage the state to:

1) Consider adopting a holistic sustainable materials management approach that incorporates life cycle analysis and accounts for source reduction and conversion to fuels and energy along with recycling;
2) Fully enforce Maine's existing recycling provisions and pursue collaborative policy approaches;

[1] ACC's Plastics Division represents leading manufacturers of plastic resins. From life-saving medical devices to packaging that extends shelf life, versatile plastics inspire countless innovations that help make life better, healthier and safer every day.
[2] See, for example, Keep America Beautiful' s I Want to be Recycled campaign, The Recycling Partnership, WRAP Program.
[3] Plastics Recovery on ACC.com

3) Embrace voluntary plastics recycling programs and tools;
4) Leverage national partnerships for grants, loans and assistance; and
5) Treat all post-use plastics as valuable materials for conversion to chemical and plastic feedstocks and fuels.

Please consider using the recommendations outlined in our detailed comments below. ACC would be pleased to be an ongoing partner to help reduce waste and then recycle and recover more of Maine's post-use plastics. I can be reached by phone at (518) 432-7835 or by email at margaret_gorman@americanchemistry.com for any questions or additional information.

Sincerely,

Margaret Gorman

Senior Director, Northeast Region, State Affairs
American Chemistry Council
11 North Pearl Street, Suite 1400
Albany, NY 12207

ACC comments to the Joint Standing Committee on the Environment and Natural Resources

Plastics Contributions to Sustainable Materials Management

Plastics help us to do more with less in many ways. Because plastics are durable, lightweight and versatile, the use of plastics can help reduce waste and the consumption of energy. Lighter packaging can mean that lighter loads or fewer trucks and railcars are needed to ship the same amount of product, helping to reduce transportation energy, decrease emissions and lower shipping costs.[4]

Plastics Recycling Today

Plastics' recycling creates economic and environmental value. The *2017 United States National Postconsumer Plastics Bottle Recycling Report* found that the total pounds of plastic bottles collected for recycling in 2015 was nearly 3 billion pounds.[5] The two main types of bottles that are recycled are polyethylene terephthalate (PET) and high density polyethylene (HDPE). PET is often found in water and soda bottles and HDPE is often found in milk jugs and detergent bottles.

ACC tracks the recycling of plastic wraps, film, and bags. This category of plastics includes commercial shrink wrap, plastic wrapping around consumer products such as paper towels and bathroom tissue, protective packaging such as bubble wrap, and ordinary plastic shopping bags. The *2016 National Postconsumer Plastic Bag & Film Recycling Report* found that 1.3 billion pounds of postconsumer plastic film was recovered for recycling in 2016.[6] This represents a doubling of material collected since 2005.[7] Film, bags, and wraps can become contaminated when mixed with other materials, so are best not collected curbside. These materials can be collected at 18,000+ locations including most major grocery stores and retailers. Several years ago, ACC formed the Flexible Film Recycling Group (FFRG) to work to increase the recycling of polyethylene film. Its goal is to double polyethylene film recycling by 2020.

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[4] Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in The United States and Canada. 2014 http://plastics.americanchemistry.com/Education-Reso urces/Publications/Impact-of- Plastics-Packaging.pdf

[5] The 2017 United States National Postconsumer Plastic Bottle Recycling Report. https://plastics.americanchemistry.com/Reports-and-Publications/National-Post-Consumer-Plastics-Bottle-Recycling-Report.pdf

[6] The 2016 National Postconsumer Plastic Bag & Film Recycling Report https://plastics.americanchemistry.com/2016-National-Post-Consumer-Plastic-Bag-and-Film-Recycling-Report.pdf

[7] Ibid

ACC also tracks the collection of non-bottle rigid plastics collected for recycling. Non-bottle rigid plastics can be found in many forms such as tubs, containers, lids, cups and clamshells as well as larger "bulky" items such as buckets, crates, toys, and laundry baskets. The *2016 National Postconsumer Non-Bottle Rigid Plastic Recycling Report* found that over 1.46 billion pounds of postconsumer non-bottle rigid plastic was recovered for recycling.[8] Non-bottle rigid plastic recovered has increased by nearly 4.5 times since 2007.[9] The emergence of many domestic markets for non-bottle rigid plastics has led to an increasing number of cities and counties collecting these plastics for recycling. The *Plastics Recycling Collection National Reach Study: 2012 Update* found that over 60% of the United States population has some form of access to recycle non-bottle rigid containers.[10] Further, the increased amount of recycled material has driven increased reclamation opportunities in the United States.[11]

Programs to Increase Plastics Recycling

ACC commends Maine for focusing on recycling more valuable post-use packaging instead of sending it to landfill. We believe Maine could benefit from leveraging ACC and our partners' education, outreach and technical assistance programs. Below are some recommendations on programs that can deliver results for increasing plastics recycling.

1) **Pursue sustainable materials management as the long term goal.**

Plastics are an important component to preventing wastes, such as food waste, from materializing. We recommend that the state consider an approach known as "sustainable materials management" that is consistent with the approach the U.S. Environmental Protection Agency (EPA) recently adopted.[12] Sustainable materials management utilizes a holistic approach, such as life cycle analysis, as a tool to evaluate the full range of potential environmental impacts (e.g., greenhouse gas (GHG) emissions, energy, water, etc.) attributed to material use. ACC's life cycle

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[8] 2015 National Postconsumer Non-Bottle Rigid Plastic Recycling Report. https://plastics.americanchemistry.com/2016-National-Post-Consumer-Non-Bottle-Rigid-Plastic-Recycling-Report.pdf

[9] Ibid.

[10] Plastic Recycling Collection National Reach Study: 2012 Update, http://plastics.americanchemistry.com/Education-Resources/Publications/Plastic-Recycling-Collection-National-Reach-Study-2012-Update.pdf

[11] 2014 National Postconsumer Non-Bottle Rigid Plastic Recycling Report. https://plastics.americanchemistry.com/Education-Resources/Publications/20 14- National-Report-on-Post-Consumer-Non-Bottle-Rigid-Plastic-Recycling.pdf

[12] U.S. Environmental Protection Agency Sustainable Materials Management. http://www.epa.gov/smm

inventories on plastics packaging[13] including flexible coffee packaging[14] tuna packaging[15], and high density polyethylene (HOPE) milk jugs[16] provide examples of how source reductions from plastics packaging can lead to important environmental benefits even if these packages are not mechanically recycled.

Moreover, focusing on just the recycling rate can be counterproductive. For example, composting or anaerobic digestion of organic waste is often counted as recycling. And, because a large portion of organic waste is landfilled, increased diversion of organic material is often viewed as a prime opportunity to increase diversion rates. However, ACC encourages Maine to explore the fact that a truly sustainable materials management approach recognizes the critical role that sophisticated packaging plays in preventing food from being wasted in the first place. It also recognizes the greater environmental benefits from preventing food waste compared to the environmental benefits of treating organics after foods have already spoiled.[17] EPR policies ignore other sustainability considerations including greenhouse gas emissions and incentivize recycling at the expense of other environmental considerations.

2) **Enforce existing laws and regulations and pursue collaborative policy approaches.**

Quite simply, closing enforcement gaps and demonstrating an ability to enforce existing recycling laws and regulations should be pursued before new radical recycling schemes are enacted. Maine's existing bottle deposit law presents an opportunity to support recycling broadly. Unlike most other states, unclaimed bottle deposit receipts are not specifically earmarked to support local recycling programs or other statewide environmental programs. Because of a 2003 law, unclaimed bottle escheats have been directed to Maine's general fund. ACC recommends that Maine look to earmark its unclaimed bottle deposits to recycling activities and review how it spends its existing tipping fee surcharges before seeking out new sources of funding.

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[13] Impact of Plastics Packaging on Life Cycle Energy Consumption & Greenhouse Gas Emissions in the United States and Canada. http://plastics.americanchemistry.com/Educa tion-Resources/Publications/Impact-of-Plastics-Packaging.pdf

[14] LCI for Eight Coffee Packaging Systems. http://plastics.americanchemistry.com/LCI-Summa ry-for-8-Coffee-Packaging-Systems

[15] LCI Summary for Six Tuna Packaging Systems. http://plastics.americanchemistry.com/LCI-Summary-for-6-Tuna-Packaging-Systems

[16] LCI Summary for Four Half-Gallon Milk Containers. http://plastics.ame ricanchemistry.com/LCI-Summary-for-4-Half-Gallon%20Milk%20Containers

[17] U.S. Environmental Protection Agency. Sustainable Management of Food. https://www.epa.gov/sustainable- management-food/food-recovery-hierarchy

3) Embrace Voluntary Plastics Recycling Programs and Tools

Maine should become a WRAP partner and adopt the Plastics Recycling Terms and Tools. Increasing the recycling of plastic film, wraps and bags represents a major opportunity to help Maine meet its objectives. Clean polyethylene film is a valuable feedstock for manufacturers and most major retailers in the United States collect post-consumer plastic wraps, bags and film at front-of-store locations. The WRAP program promotes brand owner adoption of the Sustainable Packaging Coalition's (SPC) "How to Recycle Label." Additionally standardizing plastics terms and images is a best practice for community education programs. Maine can encourage its communities to fully utilize the Plastics Recycling Terms and Tools to increase collection of post-use plastics and align with its goal of generating more reliable tracking and measurement data.

4) Leverage National Partnerships for Grants, Loans and Technical Assistance

Communities in Maine could benefit from two significant multi-million dollar initiatives led by the private sector. These initiatives are directly investing in communities and recycling systems across the country. The Recycling Partnership (TRP), of which ACC is a funder and board member, recently partnered with the Massachusetts Department of Environmental Protection (DEP) to reduce contamination and drive the collection of more and better material for recycling.[18] Another important organization is the Closed Loop Fund (CLF), which was founded by Walmart and nine major global brands to provide no-interest loans to communities and private entities. Maine should explore a direct partnership with TRP and encourage its communities to apply for grants or loans from TRP or CLF. Lastly, Maine should support the Grocery Rigid Plastic Recycling Program.[19] Research has shown that grocery store delis, bakeries, fish markets, and pharmacies use significant quantities of high-value rigid plastics every day. These plastics are often larger, bulkier items that contain things like cake batter, frosting, and fish fillets. Growing the total supply of non-bottle rigid plastics available for reclamation in Maine could potentially help establish markets for smaller communities as well.

5) Treat All Post-Use Plastics as Valuable Materials for Conversion Chemical and Plastic Feedstocks and Fuels

Encouraging new recovery technologies should aid Maine as it works to increase its total diversion rate from landfill. Unfortunately, many states have yet to recognize the

[18] MassDEP to Collaborate with The Recycling Partnership. https://www.recyclingtoday .com/article/massdep-the-recycling-partners hip-collabo rate/

[19] Recycle Grocery Rigid Plastics website. http://www.recyclegroceryplastics.org/

growing range of technologies available to convert post-use resources, including plastics, into useful products and materials. As a result, entrepreneurial manufacturers who seek to convert post-use materials into valuable products such as new chemicals and lower carbon transportation fuels are forced into regulatory schemes for recycling or disposal, when neither is an appropriate fit. Consider pyrolysis, an oxygen free process that can convert post-use plastics into chemical feedstocks for new plastics or fuels. Many state waste and recycling regulations were promulgated before these pyrolysis technologies were commercially viable, and as a result these facilities often are mischaracterized as waste disposal.

However, these facilities receive a feedstock, in this case post-use plastics, and produce a marketable commodity. These are manufacturing facilities, not waste disposal facilities. ACC developed a "Regulatory Treatment of Plastics-to-Fuel Facilities" document to provide permitting guidance to state and local regulators.[20] It includes a checklist of the typical federal, state, and local permits that are required to operate these facilities. These technologies also have considerable environmental benefits compared to disposing these resources in landfill.

ACC appreciated the opportunity to provide written comments to the Joint Standing Committee on the Environment and Natural Resources.

[20] Regulatory Treatmentof Plastics-to-Fuel Facilities. http://plastics.americanchemistry.co m/Product-G roups-and-Stats/Plastics-to-Fuel/Regulatory-Treatment-of-Plastics-to-Fuel-Facilities. pdf

AMERIPEN

The power of packaging in balance:

February 14, 2019

Mike Karagiannes
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Re: AMERIPEN Comments on Product Stewardship Report, 2019

Dear Mr. Karagiannes and Department of Environmental Protection Staff,

The American Institute for Packaging and the Environment (AMERIPEN) is writing regarding the 2019 Annual Product Stewardship Report (the Report), and specifically on Section IV, A. which discusses *Product Stewardship for Packaging*. AMERIPEN does not support a product stewardship mandate as suggested in the report for Maine and notes that there are several factors that have not been considered in the report that should be articulated for full consideration of *whether* a stewardship program for packaging should be required in Maine.

AMERIPEN – the American Institute for Packaging and the Environment – is a coalition of packaging producers, users and end-of-life materials managers dedicated to improving packaging and the environment. Our membership represents the entire packaging supply chain, including materials suppliers, packaging producers, consumer packaged goods companies and end-of-life materials managers.

AMERIPEN supports programs and policies that improve recycling and works collaboratively to create cleaner recycling streams, expand access to recycling and increase the types of materials that can be recycled in states. However, we do not support product stewardship or extended producer responsibility for packaging in Maine as envisioned by the report, and encourage the Department to consider the following key issues.

1. Feasibility & Hidden Costs with Extended Producer Responsibility/Product Stewardship for Packaging

Extended Producer Responsibility (EPR) or product stewardship for packaging, as recommended by the Report, requires producers to take full or partial financial and management responsibility for products at the end of their life via product stewardship organizations (PSOs). This approach has not been proven as feasible in the U.S., and EPR has primarily been used elsewhere as a funding mechanism to implement end-of-life materials management programs where no funding source has been previously available. In the European Union, for example, funding from EPR was used to implement the widespread implementation of recycling programs *for packaging that had already been proven to be recyclable*. Most innovation funding for new recycling technology is not coming from EPR fees but rather through government and private funding mechanisms and EPR does not address that scenario. Maine should first consider and detail infrastructure investments needed to improve recycling capacity before jumping to financing solutions.

The Report supports EPR and cites its effectiveness in achieving three main goals (1) reduce costs to states or municipalities, (2) incentivize product design and (3) increase collection. However, currently, there is no

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research demonstrating that EPR reduces costs to taxpayers[1], and none that support EPR's role in fostering packaging changes and innovation. While there are several reports that indicate EPR may help increase recycling rates, there are also a number that indicate an increase in recycling rate also incurs an increase in contamination and costs. In a 2015 publication[2] Dr. Calvin Lakhan noted that the Ontario BlueBox program had witnessed a 78% increase in fees in over a 10-year period. Dr. Lakhan notes that a 1% increase in recycling rate corresponded with a 9.4% increase in costs, which he attributed mostly to fluctuating market economics and the introduction of hard-to-recycle materials. These types of cost increases to process materials should be noted as a potential consequence of EPR for packaging in Maine. Additionally, it should be noted in the Report, that while paying more for PSO management of materials, local municipalities are not likely to return tax dollars or solid waste fees to constituents and that they will also be generally be paying more for consumer products.

Some of these same challenges face take-back programs for electronics which have a long history of experience with EPR in the U.S. These programs are witnessing significant increases in costs as states impose unattainable recycling targets not in line with material coming back through the collection system; states impose convenience standards that may not actually result in increased collection of e-waste but instead increase costs for manufacturers; or, in some cases, states set pricing without any market influence or competition among service providers resulting in the highest program compliance costs in the U.S. Additionally, EPR programs for electronics have not proven to incentivize product design. EPR does not always result in the achievements its been touted to produce or at least not in a cost-effective manner for those ultimately fronting the bill. What started as a promising solution is now becoming a cost-burden on both states and manufacturers.

2. Market Challenges for Materials Recovery Must be Noted in the Report

AMERIPEN recognizes that increased efforts toward domestic processing can be a key strategy in reducing marine debris, improving environmental outcomes and increasing our economic competitiveness. However, the Report presupposes that if manufacturers are forced to manage the collection of packaging materials, then the technology and volumes of materials within the State are sufficient with today's existing technology. This is flawed.

Many plastic resins and mixed materials have a lack of end markets that makes it difficult to offer mechanical recycling solutions. Alternative recovery strategies such as plastics-to-fuel or other forms of energy recovery may be possible but are challenged by a lack of sufficient volume to meet their needs to process and scale, especially in Maine. The Report's belief in having all materials diverted to recycling is not likely to match the reality of capture and recovery methods and does not reflect the challenges of today's scrap trade for diverted materials.

There is ample evidence of this challenge:

A. Recycle BC recently introduced a pilot program to collect and trial recovery efforts for multi-material plastic film packages, a product which is rapidly growing in the market. While a portion of this material collected has been stated to be designated towards R&D for mechanical recycling, they are clear that the majority of this material will be pelletized for waste to energy. To date there is no public reporting available on volumes directed towards R&D or pelletization or success rate in R&D.

[1] Miller, Chaz. "From Birth to Rebirth: Will Product Stewardship Save Resources?" American Bar Association. Section of Environment, Energy and Resources. 2011.
[2] Lakhan, Calvin. (Feb 2015) "Diversion But At What Cost: the Economic Challenges of Recycling in Ontario." Resources, Conservation and Recycling.

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B. The city of Palo Alto, CA is also in a pilot with emerging company *BioCellection* to process hard-to-recycle plastics and films but their approach is to mix resins 2-4 and films in order to capture sufficient volumes for small trials. *BioCellection* is still considered an early-stage innovator and has yet to show proven success with recovery of this material.

C. The Province of Nova Scotia recently partnered with *Renewology*, a commercially viable plastic to fuel technology, to help reduce plastic waste but this required changing Provincial statutes to permit for thermal recovery.

AMERIPEN and its member companies understand there is a need to increase the technologies available to process more packaging materials, but the challenges in the market right now require a focus on ***end market development*** and capturing ***sufficient volumes*** to ensure scale, especially in Maine. Many of our corporate members are supporting these efforts through investments into initiatives including *The Recycling Partnership*, *REMADE*, and the *Alliance to End Plastics Waste*.

However, until these investments identify new technologies or the best means to capture increased volumes of resin types, the ability to successfully re-process significant volumes of plastics 3-7 and other mixed materials will remain a challenge and the additional burden to collect, sort and process materials will slow any R&D contributions towards this goal.

3. Loss of Local Control and Solid Waste Management

While the Report does discuss different versions of shared and sole manufacturer financial responsibility under an EPR program for packaging and envisions local incentives for efficient municipal programs, it does not provide specifics on how this balance can truly be achieved to sustain both statewide collection of materials and local control.

AMERIPEN recommends that the Report clearly state that regardless of the approach, local municipalities may likely lose control and management responsibility for packaging waste under a true EPR approach. If PSO organizations are mandated to be responsible for managing packaging materials statewide, those organizations are not likely to continue to contract and support the diversity of Maine's solid waste structures within all of municipalities and local governments *and* be sustainable economically. Efficiency will be critical, especially in today's material markets, and any PSO will find it difficult to meet statewide service collection and maintain both local control and solid waste management jobs and responsibilities. Out of necessity this will result in statewide contracts for collection to those providers that can provide service that accomplishes PSO program goals but minimize variation and local cost issues. If a system is set up without this flexibility, then the alternative – costly bureaucratic duplication – is equally disruptive and unlikely to be publicly accepted.

4. Maine's Bottle Bill and EPR for Packaging

While the Report does discuss Maine's Bottle Bill program and notes where EPR and bottle bill programs exist in Canada, it does not provide a vision for how such a program would relate to EPR for packaging in Maine. Maine's privatized Bottle Bill program is unique and it is difficult to see both programs continuing to be able to operate and create enough volumes for either program to be successful – especially when the Bottle Bill in Maine appears to be in a crisis. This crisis is demonstrated by the amount of legislative interest in supporting the private system of the Bottle Bill this year. With this crisis, moving to an EPR program for all packaging, which would include beverage containers, may only exacerbate the program's current problems. If the Department intends to maintain two systems, the Report must articulate how they both could achieve economically viable volumes of materials and funds.

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Once again, AMERIPEN appreciates the opportunity to comment on the Annual Product Stewardship Report**.** While we do not support product stewardship as envisioned by the report, we look forward to working with the Department of Environmental Protection to work to address proactive policy solutions that improve access to recycling and find positive outcomes for recycled materials within Maine and beyond. We hope to continue a positive dialogue with the Department on these issues and with the Legislature as they are considered this year.

Sincerely,

Andrew Hackman
Principal Lobbyist on behalf of AMERIPEN

CC: Melanie Loyzim, Deputy Commissioner, Maine DEP
Paula Clark, Director, Division of Materials Management, Maine DEP
Carole Cifrino, Supervisor, Recycling Programs, Maine DEP

CHPA

founded 1881

February 14, 2019

Mr. Mike Karagiannes
Director, Bureau of Land Resources
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

RE: Comments – Annual Product Stewardship Report (January 2019)

Dear Mr. Karagiannes,

On behalf of the Consumer Healthcare Products Association (CHPA), the 137-year-old trade association representing the leading manufacturers of over-the-counter (OTC) medications, please accept our comments related to the Maine Department of Environmental Protection's (DEP) annual report, *Implementing Product Stewardship in Maine*.

Our specific interest in the document falls on page 20 where pharmaceuticals are mentioned as a candidate for a new extended producer responsibility (EPR) law in Maine. While EPR may make sense for some consumer products, it does not work for pharmaceuticals. In fact, the report admits that one of the more critical components of product stewardship – increasing recovery of material for reuse and recycling – cannot be met with a pharmaceutical EPR law. That being the case, we strongly recommend the State of Maine take alternative approaches to address concerns with pharmaceutical diversion and environmental impact. Rather than creating an expensive, inefficient, under utilized framework for broad pharmaceutical product stewardship (drug take-back), CHPA encourages the state to educate consumers about existing disposal and safe medicine storage options.

Disposal Options Already Exist

Walgreens, in a partnership with AmerisourceBergen, Prime Therapeutics, and Pfizer (a member of CHPA) already collects unused or unwanted medications at 1,500 of its drugstores across the country. Since the program began, more than 400 tons of medications have been collected and disposed of. Late last year, Walgreens also announced it would offer drug disposal options at every single one of its stores. Available at no cost to consumers, Walgreens will distribute a "safe medication disposal kit" upon request by any customer. Both programs make the disposal of medications easier and more convenient while helping reduce potential drug diversion from their intended use.

Similarly, CVS Health accepts unused pharmaceuticals in more than 750 of their locations, and they have donated more than 900 disposal kiosks to community locations such as police departments. Together, these units have collected more than 217 tons of unwanted and unused medication.

Walmart gives pharmacy customers "Dispose Rx" powder that can turn medications mixed into a pill bottle with warm water that is then disposed of in household trash. Rite Aid offers mail back envelopes people can use to return their extra medications. These retail efforts combined with existing Drug Enforcement Agency (DEA) pharmaceutical drug take-back days, provide consumers with a plethora of options for medicine disposal. Rather than re-creating a take-back system, we suggest educating the public about existing options; concentrating efforts on driving traffic to existing disposal sites.

Safe Storage vs. Safe Disposal

According to national surveys, at least half of individuals who misuse medications obtain them from a friend or relative. More than 60,000 young children end up in emergency rooms every year after getting into medicine while their parents or caregivers were not looking. Medications left unattended or not safely stored, no matter if they're expired or not, are prone to being diverted from their intended use. As such, educating Mainers about the importance of safe medication storage has a far greater impact on drug diversion control than does a disposal program.

To remind parents and caregivers about the importance of safe medicine storage, the Centers for Disease Control and Prevention (CDC) and the CHPA Educational Foundation, in partnership with the PROTECT Initiative, launched the Up and Away and Out of Sight educational program. The program is aimed to educate parents and caregivers about how they can prevent accidental overdoses. It reminds them to store medicines safely; providing them with the information and tools to keep their child/children safe; and encouraging them to take action.

Conclusion

OTC medicines play an important role in our nation's overall healthcare. Our members' products provide millions of Americans – including thousands of Maine residents – with safe, effective, and affordable therapies to treat and prevent many common ailments and diseases. These medicines are affordably accessible to patients, and help empower families to treat conditions with trusted, Food and Drug Administration (FDA) approved treatments. According to a study by Booz and Company, for every dollar spent on an OTC medicine, we save the U.S. Healthcare system $6-$7.[1] Without access to OTC medicine, over 60 million Americans would not seek treatment for their ailments at all.[2]

For these reasons, we take very seriously any potential disruption - regulation or otherwise- to the affordability of OTC healthcare. As the first and only line of defense for many Maine families, it is critical that state officials evaluate the opportunity cost (cost of medications vs. benefits of drug take-back) associated with the implementation of a mandatory, manufacturer funded drug take back program.

CHPA recognizes the importance of safe storage, and drug disposal, but we strongly disagree that an EPR program for pharmaceuticals is necessary in the State of Maine. Thank you for considering our concerns and please feel free to contact me directly with any questions on our position.

Respectfully submitted,

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[1] The Value Of OTC Medicine To The United States, Booz & Co., January 2012.
[2] Ibid

Carlos I. Gutierrez
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clf
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For a thriving New England

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February 14, 2019

Mike Karagiannes
Maine Department of Environment Protection
17 State House Station
Augusta, Maine 04333

Re: Comments on the Maine Department of Environmental Protection ("DEP")'s 2019 Annual Product Stewardship Report to the Legislature ("Report").

Dear Mr. Karagiannes,

Conservation Law Foundation ("CLF") is a nonprofit, member-supported, regional environmental organization working to conserve natural resources, protect public health, and promote thriving communities in the New England region with an office in Portland. Our Zero Waste Project aims to protect the regions' communities from the dangers posed by landfills and incinerators, support the development of a circular economy, and lift the burden of waste costs from municipalities. Thank you for the opportunity to submit comments on Maine DEP in the 2019 Annual Product Stewardship Report.

CLF supports policies which strive to include producers in the end-of-life management of the products they place on the market, including the recommendations made by Maine DEP in the 2019 Annual Product Stewardship Report. Maine is a national leader in the implementation of extended producer responsibility programs, and we hope it continues to lead by expanding and adopting the policies in the Report.

For much of the history of waste management, producers have been disconnected from end-of-life care for the products they sell to consumers. Companies do not have an incentive to design products to be recycled or use recycled content in their manufacturing, and increasingly materials are used which cannot be easily recycled or recovered. Producers of hazardous waste like plastics and electronics flood the market and our landfills and incinerators with dangerous pollution. Solid waste facilities, which are overwhelmingly located in environmental justice communities, then expose the most vulnerable populations to health hazards. Waste costs extend beyond environmental and health concerns – municipalities are responsible for cleaning up litter and paying for trash and recycling regardless of whether they purchased the products, costing taxpayers tens to hundreds of thousands of dollars each year. Extended producer responsibility ("EPR") policies require producer engagement in bearing these burdens, lifting costs from communities and incentivizing environmental stewardship from producers.

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Maine is one of two states with an extended producer responsibility framework law, which has led to the adoption of product stewardship programs for a long list of products, including electronic waste, architectural paint, and beverage containers recovered through the Bottle Bill. CLF supports these programs and Maine DEP's recommendations for improvements. However, CLF cautions the DEP and Legislature with respect to any proposed statutory changes to the Bottle Bill. Maine's beverage container redemption law is highly efficient in its current form, recovering between 75 and 87% of all distributed beverage containers. The program provides jobs and a clean source of recyclable materials, while lifting the cost of recycling from the backs of municipalities. CLF agrees with the Natural Resource Council of Maine's comments on the Report that the Legislature should improve the program with:
1) Better data and reporting so that we may be more certain about the collection rate—this should be coupled with an automatic increase in deposit amount should collection targets not be reached;
2) Consideration of adding more containers into the redemption model;
3) Better ways to respond to issues of non-compliance; and,
4) Review of methods to streamline the commingling process based on input from the redemption center operators.

The Report also includes recommendations for five additional programs that the Legislature may consider: product stewardship for packaging, pharmaceuticals, carpets, mattresses and solar panels. EPR laws for each of these products exist in other U.S. states, including very successful programs in Rhode Island, Connecticut and California for mattresses, and statewide product stewardship for pharmaceuticals in California.

CLF is especially heartened by Maine DEP's focus on and insight into the implementation of an EPR program for packaging. The Report highlights the drastic increase of recycling costs for municipalities in 2018, caused by China's refusal to accept contaminated bales of mixed plastic and fiber. EPR programs for packaging in the European Union and Canada have lifted all or part of these costs from municipalities and taxpayers while pressuring producers to make the barrage of products flooding communities as recyclable as possible. In identifying program examples, Maine DEP describes the differences between recycling systems completely under producer control versus those in which municipalities maintain partial control. CLF believes that the Legislature should move quickly to adopt a shared model wherein producers are responsible for helping cover the costs of municipal recycling. Such a program will ensure that environmental goals for material recovery are met and that recycling remains under control of municipal government, not producers concerned with their bottom line.

While Maine may be a leader of EPR policies and programs, the rest of New England is also moving forward, especially Massachusetts, Connecticut, and Rhode Island. The Zero Waste Project promotes EPR programs regionally, including shared responsibility for packaging and expanded or strengthened deposit/return programs for beverage containers. EPR systems work,

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and regional adoption of product stewardship will only increase the efficacy of these programs, so we will be certain to share news of your hard work with other states.

CLF thanks Maine DEP for this thorough and motivating report, and for allowing us the opportunity to submit comments in support. We will urge the Legislature to vote favorably on EPR legislation under consideration this session, and to advocate for the future adoption of recommended programs. CLF stands ready to answer any questions or supply additional information if needed.

Very truly yours,

Kirstie L. Pecci
Director, Zero Waste Project, CLF

Cc: Sarah Lakeman, Sustainable Maine Project Director, Natural Resources Council of Maine
Sean Mahoney, Executive Vice President and Director, CLF Maine, Conservation Law Foundation

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February 14, 2019

Mr. Mike Karagiannes
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Re: Comments on 2019 Maine Product Stewardship Report

Dear Mr. Karagiannes:

On behalf of the membership of the Retail Association of Maine, please accept the following comments regarding the 2019 Maine Product Stewardship Report. As noted in the report, the department is recommending changes to the framework law as well as four of the nine programs that currently exist. We will break our comments down in a similar fashion.

Framework Law Changes:
The report proposes a number of changes to Maine's product stewardship law most notably in Appendix A. We have some concerns:

- Each product and program is different and to mandate a permanent collection site within 15 miles of 90% of Maine's population within 1 year seems arbitrary. Given the majority of Maine's population follows the coastline, the bill would likely exclude collection in much of Maine beyond the coastal areas.
- Requiring that a program has a minimum of a ½ time employee is not clear. Must this person be located in Maine or would a program operating regionally suffice?
- The department is proposing an annual fee of up to $100,000 per year to help cover annual report review, oversight, administration and enforcement. With the existing nine programs this seems excessive. How may DEP staff are needed to adequately monitor the programs? As the report demonstrates, some of the programs are operating efficiently and need very little ongoing oversight. Additionally, when the product stewardship law was first passed, it promised two things in addition to taking certain products out of the waste stream: drive down to cost of landfilling certain materials and to prevent individual legislative proposals for new product categories. While DEP demonstrates that Maine has increased recycling costs, no evidence is provided that EPR will actually lower costs. We believe neither of those promises have been kept.

- The department is proposing an annual survey by each of the nine programs to measure consumer knowledge and collection methods. It would seem to be more efficient to have one survey that covers all of the programs. Does it need to be done annually or would bi-annually suffice?
- In summary, the department is proposing a number of dramatic changes in Appendix A. We would recommend that a stakeholder group be formed to collaboratively work with the department on any necessary changes to existing programs. The stakeholders should include representatives from the existing product programs, retailers, and collection sites.

Mercury Lamps:
The marketplace for lightbulbs has changed dramatically in the last decade. For consumers, we have moved from incandescent bulbs to CFLs to LEDs. In fact, starting January 1, 2020, there will be new requirements on producers and retailers regarding high efficiency lamps thanks to the 2007 Energy Act. It is clear the department has concerns with the existing program and we cannot comment on the effectiveness of NEMA's program. However, we do think there is an opportunity for a wider discussion of this issue with Efficiency Maine and whether or not there can be additional incentives to replace CFLs.

Recently, Efficiency Maine ran a program that lowered the cost of LEDs lightbulbs to approximately $.50 / bulb. The price was so good that it inspired me to replace all of the CFLs in my house with LEDs. However, now I am left with a good number of still-usable CFLs and it would seem silly to recycle them when they still have usable life. Could Efficiency Maine or Maine DEP provide a bounty on CFLs similar to the mercury thermostat program? Perhaps that would help drive up redemption rates.

Beverage Containers:
The report noted that Maine's beverage container redemption program is very successful with redemption rates of 75-87% compared to the national average of 34%.

We have a number of concerns with some of the proposals in the report:
- First, Mainers are well aware where they can take their bottles for redemption. Maine's program has been operating for so long that there should be no confusion as to who takes or does not take bottles.
- That being said, while we support the elimination of the redemption responsibility for retailers of 5,000 square feet or less, we cannot support the new requirement that retailers greater than 5,000 square feet must have a written agreement with a redemption center within 1 mile. As Mainers, we know we can take our bottles to a Clynk facility at Hannafords, or Shaws' redemption facility, or a stand-alone redemption center. We don't expect Reny's to redeem bottles. We don't expect Home Depot or Dick's Sporting Goods to redeem bottles. We have never understood the need for retailers to maintain written agreements with redemption centers as we are not aware of redemption deserts in Maine. In fact, our 75-87% redemption rate speaks to the success of the existing program.

- There are a large number of bills submitted this session looking to make changes to Maine's bottle redemption program so we know these issues will all get scrutinized and we welcome the discussion.

Batteries:
As the report noted, there was significant discussion in 2016 regarding the expansion of the battery stewardship program. We agree that batteries (generally rechargeable batteries) that are a fire hazard should not be in the waste stream and that additional efforts are needed to limit that risk.

However, when the discussion includes primary batteries, we are not sure those should be included in the program. Primary batteries are non-toxic and can be disposed of through the normal waste stream with no adverse effects and do not take up significant landfill space. Yet, consumers do not differentiate easily between rechargeable / recyclable batteries and primary batteries and often deposit both types in collection containers. In addition to the recommended language in the report, there is another bill title addressing batteries for legislative consideration. We look forward to participating in those discussions when those bills arise.

Cellular Phones:
We agree with the proposed changes to the cellular phone program.

Additionally, the report discusses other products for future consideration, namely *packaging, pharmaceuticals, mattresses, carpet and solar panels*. We are aware of a couple bill titles that will propose legislation regarding mattresses and pharmaceuticals as those issues have been discussed previously. There are existing programs in other states that will provide relevant information as to whether or not these products are ready for a product stewardship program in Maine.

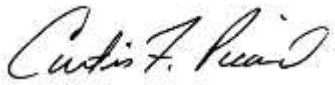
For packaging, the report highlights many of the challenges that currently exist but we wanted to mention a few other points.

- DEP claims that other provinces have had success with EPR without providing clear before and after evidence of success. Furthermore, they confess to not being able to measure changes in sustainable packaging as a result of EPR. We support increasing the use of sustainable packaging and believe that the state can work with businesses to achieve that end within the existing recycling scheme and create incentives to encourage sustainable packaging.
- DEP is conflating product EPR programs with EPR for packaging. The complications with creating an EPR scheme for packaging in Maine are significant and cannot be taken lightly. No state in the U.S. has approved an EPR law for packaging. In fact, the CT legislature directed a task force to study methods for reducing consumer packaging. In February 2018, that task force approved final recommendations that did not include EPR for packaging.
- DEP raises a number of important questions about EPR for packaging in their report but does not provide answers. If DEP wants to explore this issue, we recommend they convene a

stakeholder discussion, of which RAM would participate, to understand the opportunities, complications and factors the legislature would need to consider before approving an EPR program for packaging.

Thank you for the opportunity to submit our comments.

Sincerely,



Curtis Picard CAE, President and CEO

Comments on Product Stewardship Report of Peter Welch Gaia, LLC

Hello Mike,

It was good to meet you up in the legislature at the time of the plastics bill hearing at ENRC. Please note that I have copied Carole Cifrino as well. I certainly wish to share openly my views with her, too, in the spirit of dialogue that she has so generously offered to me. Please know that I view this report with an understanding that the DEP is wanting to make improvements to the bottle bill & that this department bill is with the best of intention. However, the dialogue and concepts that are included in the Stewardship proposals fails to address the # 1 issue, handling fees.

Please allow this email to be my "comments" for purposes of public comment on the "Stewardship Proposal".

Handling fees have not adjusted in nearly a decade. Proposals such as LD 360 do address this issue and the need is urgent. Hence, the "emergency" status is warranted. I would hope that the department and Governor Mills would see the need and support its passage. I speak as a bottle bill veteran since 1981. I speak as a major retailer in Maine for nearly 25 years. I speak as a wine importer who sells to wine distributors in Maine. I speak as a long-time former Maine Liquor Agent. I speak as an employer who voted for the minimum wage increase. I speak as a past appointed member by the Maine Legislature on multiple "bottle bill" study groups. I speak as a longtime supporter of the bottle bill & Maine's environment.

Let me try to address the Stewardship proposal in the following prose.

The "catch all" is not a panacea- even if it were able to be implemented???? It is not well thought out, at all. The spirit of the idea is good. It would be somewhat helpful, in theory. It would only represent about 20% of the containers in the system, by my estimate**.**

Do you know of any entity that envisions themselves as the "Catch All"???? The state should be wary and cautious about getting stuck holding the bag here!!

However, this section improperly assumes that the only action and" labor" involved at a redemption center is: putting a can in a bag. It doesn't save any storage space, whatsoever. And, the storage on site for 1000 containers is the same no matter how many sorts are involved. It may save some floor space for sorting, surely.

A customer brings a container to a redemption clerk- The clerk- inspects for the "deposit"(**often difficult to find and see due to poor or out of compliance labeling by IOD's**)- requires counting the customers empties by those that are .05 separate from .15 & separating out containers not covered under the bottle bill- etc., etc. It does not include the labor needed to maintain & clean the redemption center and take care of ancillary recyclables (i.e.- cardboard & bags of which there is a lot- again envision yourself and how folks return empties) -- or trash- including the bazillion plastic bags consumers return empties in.

At some point and currently & usually once a week or every 2 weeks- the distributor picks up the containers and verifies with the redemption center the number of containers. The proposed "catch all" process is much more involved than that. Also, the idea of weights is flawed- even if you were to get

100% compliance from all these IOD's. Right now- we have containers that have ice in the bottom of them from fluid from sitting in people's garages. If anyone can picture your own empties- or what we see---- empties comeback with a variety of materials in them. First, they often have some amount of fluid or ice in them which would mess up the weight concept, completely.- Sometimes they have lemons and fruit, sometimes cig butts- sometimes straws, in the summer sand, etc- the list goes on. Also, IOD's are constantly changing and evolving their containers for marketing purposes, etc. Size, shape, and weight are regularly changing. Just recall the testimony at the Plastic Caps hearing about producers lowering the weight of their containers.

Sometimes very unsavory stuff is also in these containers. Deposits and weights don't match up & cannot be reconciled by bookkeeping.

Also, if the measurement to the consumer is a "5 cent deposit" the only way to match this up is with the same. I can picture a scenario whereby each and every bag that departs a redemption center needs to be "weighed"- OMG- that will take time and labor! From a bookkeeping point of view, I picture an army of clerks and tally's even using scanners and technology.

Practically speaking- all these IOD's which, in theory, will be part of the "catch all"- all currently have the opportunity to sell directly and "solely" to a Maine distributor and thereby be part of those distributors that have a co-mingling group- (In theory). But they have voluntarily decided to NOT pursue this avenue. Or, they have not been permitted to join for some reason. This is by choice, assumable.

Also, there has been no oversight or review of the current co-mingling groups to verify annually that they continue to be in compliance with law and regulation. This should be done.

More importantly, the existing co-mingling groups were envisioned & required to allow other producers into their groups under the original enabling legislation. If that were happening, this issue is solved. But, still not a panacea!

There are also some other issues in this Stewardship report, too. I am for fees to be increased to assist the bottle bill and enforcement- but that MUST include IOD's and distributors- not just Redemption Centers. Yes, go ahead and double everyone's fees. I find it a little burdensome that that the side of the industry with fixed revenue is being asked to carry all the weight.

I do concur with getting a "solid reporting" regime of & for "ALL" containers BOTH SOLD & REDEMMED IN MAINE. This is really slack at the moment. This should be done for containers subject to "escheat" and containers that are not subject to "escheat". "Trust & Verify", to quote Ronald Reagan.

As for the issue of Maine Liquor not meeting the "test" of a qualified commingle- well then- a "fiscal note" should be attached to this legislation as the state would owe ½ penny going back for several years on all the containers run thru its system. Because the State of Maine was envisioned as 100% of the product group in the original legislation; it was deemed compliant.

Unfortunately, I see this as well-intentioned but way off the mark of the focus needed. That is a handling fee increase such as envisioned in LD 360 and with a CPI adjustment whenever the CPI moves above the "BASE" rate by more than ¼ of a penny.

The section on “fraud” and “under bagging” at redemption, I see as somewhat of a red herring. Most and many redemption folks are hardworking, honest folks and this intonation is not fair. First, the distributor or pick up agent has the right to refuse a bag if they see or believe it to be short. Second, it makes no provision for being overfull. The system was designed on volume counts. At that has worked, well. THERE ARE NO IOD’S MORE THAN 100%!!! There is “NO” mention of unintentional or intentional fraud in the system by IOD’s. I submit this is more significant- due to “perhaps” unintentional acts- but still more significant. The fact that RSI had more contract IOD’s than Maine Revenue Services had filings for IOD’S & “escheat” is a bell weather. That should be a 1:1 and 100% correlation. THE CURRENT LAW REQUIRES IT, BUT IT IS NOT ENFORCED**.**

The bottom line is that the bottle bill is a “User Fee”- the single most effective piece of legislation with a 40-year history of success, delivering 80-95% return rate without a “Penny” of taxpayer money. I would think the Legislature and Governor would support this concept, universally. It does deliver 5%-10% of Maine’s MSW depending on who you talk too. If we had 5 more laws as effective as this- Maine would be at 50% recycling and meet our outdated goal. It saves property taxpayers and municipalities “statewide- rural & urban”. And BTW- the roads are clear of those containers and Maine DOT and towns do not need to employ staff to do this Vital Task in a tourist state. We are a tourist state whereby our hospitality industry is of great importance.

The Maine public has endorsed and supported the “bottle bill” with great zest and compliance. Twice rebuffing by great vote margins (85%-15%) industry efforts to dismantle and weaken the bottle bill. Wouldn’t it be grand if all of Maine’s Solid Waste legislation had this “SUCCESS”!

IT works!!-

The crux of the issue at the moment is that all manner of costs(property tax, insurances, utilities, supplies, on and on)-- have increased at the Redemption Center level since 2009 at the time of the last increase.

Significantly, the Maine minimum wage has rightly risen from 7.50/hour to 11.00/ hour starting 1.1.19. A 46% increase. Starting on 1.1.20, the minimum wage rises to 12.00/hour- a whopping 60% increase from 2009.
Maine state government has implemented this minimum wage. Maine state government implements the “handling fee”. Raising the “handling fee by .01 to .02 with a CPI adjuster” is: a matter of, FAIRNESS.

Over the past near decade, this amounts to less than 1/10 of 1 percent per year increase when related to the retail price of products such as liquor, wine, beer, soda and water.

I see the Dept. bill as perhaps well-intentioned but “noise” and distracting. I believe the Dept. had as a prerequisite, trying to do something positive- just so long as there was no fee increase. Hence, all version of mental exercises except the single most needed advocacy. I am certainly wishing to make myself available to and for the department in any manner that may be of assistance.

Thanks for letting me portray a point of view & providing me the opportunity to do so. If you would be so kind as to confirm receipt so that I know that I have properly delivered these comments; I would be thankful.

Sincerely yours,

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INTERNATIONAL SLEEP PRODUCTS ASSOCIATION
ISPA

February 14, 2019

Mike Karagiannes
Maine DEP
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mike.karagiannes@maine.gov

Re: Comments on January 2019 Report, Implementing Product Stewardship in Maine

Dear Mr. Karagiannes,

The International Sleep Products Association (ISPA) is the trade association for mattress manufacturers and component suppliers to the industry. ISPA has served as the voice of the mattress industry for over 100 years. We appreciate the opportunity to comment on the Department of Environmental Protection's (DEP) January 2019 report, *Implementation of Product Stewardship in Maine* (2019 Product Stewardship Report or Report). ISPA has concerns with mattresses identified as a candidate product for new Extended Producer Responsibility (EPR) programs as well as the proposed changes to the Product Stewardship framework law.

I. Mattresses as a Candidate Product for New EPR Programs

As noted in the Report, California, Connecticut, and Rhode Island each have mattress recycling laws. Each law requires a small visible fee to be charged on each mattress and box spring sold in the state to fund the respective recycling programs. In order to implement the mattress recycling programs required by these laws, ISPA created the non-profit organization, the Mattress Recycling Council (MRC) to oversee each of the programs. The Connecticut program launched in May 2015, California in December 2015, and Rhode Island launched in May 2016.

The current fee in each state is as follows:

California - $10.50
Connecticut - $9.00
Rhode Island - $16.00

These fees are per unit. For example, an individual buying a mattress and box spring in California would pay $21.00. Geography, population size and obligations imposed by the state all play a role in influencing the level of the fee. In each of the existing program states, multiple recyclers operated in the state prior to passage of the law. Currently, we are aware of no mattress recyclers operating in Maine, meaning that any such program would have to rely on out-of-state or foreign operators to recycle mattresses. In addition to likely higher processing costs, transportation costs will be significantly higher.

In the 2019 Product Stewardship Report, the DEP concluded that, "given Maine's geographic size, low population, and lack of businesses to deconstruct mattresses, enacting a law with the same financing mechanism likely would result in a per unit fee at sale even higher than the $16 fee in Rhode Island." Instead the DEP proposed, "an EPR system for mattresses funded at least partially through cost internalization may be most appropriate for Maine."

ISPA does not agree with either statement. We have no basis upon which to estimate the cost of recycling mattresses in Maine. It could require a fee higher or lower than the $16 fee currently collected in Rhode Island. ISPA is prepared to work with DEP or others to explore options and estimate the actual cost of recycling mattresses in the state.

Likewise, funding mattress recycling through a combination of consumer fees and "internalized" costs has many disadvantages. The disadvantages include:

- The suggested mixture of consumer fees and internalized costs will not save the consumer any money. The internalized cost will be passed along to the consumer. Therefore, the consumer will pay for the full recycling costs regardless of whether it is funded exclusively by a consumer fee or not.
- In fact, the consumer may be required to pay more under the internalized cost approach. Collecting a fee at retail is relatively easy to implement and has proven highly successful in funding recycling programs in other states. If a state resident buys a mattress, the fee applies. This approach places all manufacturers and competitors on a level playing field. Under an internalized cost approach, however, an additional process will need to be established to verify whether each manufacturer is paying its proper share of the cost. This approach may be difficult to implement as well because a manufacturer that sells mattresses to retailers operating in multiple state will not necessarily know where the product will actually be used. As a result, the state recycling program will need to incur additional administrative costs to implement an internalized cost approach, and there will be a greater risk of "free riders" not paying their share of the costs. For these reasons, it is in fact likely that consumer will pay more to implement both a consumer fee and an internalized cost approach. Not pursuing an internalized cost approach will be more efficient.
- A consumer recycling fee that is collected at retail and that is clearly visible on the sales invoice or receipt provides the most transparent way for consumers to understand the cost of recycling. An internalized approach will serve to hide some of the costs that the consumer is incurring as a result of the recycling program. In order to be transparent with Maine residents, DEP should promote a process that clearly informs its residents about the actual costs of recycling, and not adopt a funding method that only obscures this fact.

The industry supports working with states to determine whether a practical mattress recycling programs is feasible. We remain concerned about the lack of available infrastructure in Maine to support a program at this time but are open to exploring alternatives for addressing these

issues and options for lowering related costs. ISPA remains committed to working with the DEP and the Legislature to explore all options that can promote the recycling of mattresses.

II. Proposed Changes to the Product Stewardship Framework Law

ISPA objects to the following changes that DEP has proposed to Maine's Product Stewardship framework law.

1. Imposing minimum standards for producers' or stewardship organization staffing.

DEP proposal:
"Minimum standards for producers' or stewardship organization staffing, e.g., a minimum ½-fulltime equivalent (FTE) to recruit, train and monitor collection sites. For example, the PaintCare program has employed 1-FTE to perform these functions for its program in Maine and Vermont since the inception of their program. This level of staffing has ensured that collection sites receive the support they need to safely and adequately implement the program as confirmed by Department staff field visits."

ISPA response:
There is no basis for this recommendation. Just because the PaintCare program has employed a ½ FTE in Maine does not mean that it is necessary or that it will be relevant to a new mattress recycling program. Not all recycling programs operate the same way. As a result, a "one size fits all" approach, even for a minimum, is not warranted here. For example, some recycling programs involve hazardous waste, others (like mattress recycling programs) do not. Although a heightened level of monitoring may be needed for more dangerous products, it is not warranted for others. Likewise, the level of monitoring will change over time. When a program first launches, staffing needs may be greater than are needed for a mature program.

DEP's recommendation may unnecessarily drive up mattress recycling costs in Maine. For these reasons, ISPA opposes DEP's recommendation to impose a standard minimum cost on programs that do not yet exist, regardless of whether there is a demonstrated need for such additional costs.

2. Financing for implementation and operations, including funding for regulatory oversight.

DEP proposal:
"Adequate financing for implementation and operations, including funding for regulatory oversight. Payment into the system to finance end-of-life management must be sufficient to cover materials management costs, consumer and collection site education, a minimum ½- FTE per stewardship program assigned to implement the program in Maine, on-going program evaluation and reporting, government oversight, and any incentives for collection."

ISPA response:
ISPA disagrees with this recommendation for similar reasons. EPR programs are intended to make producers responsible for the post-consumer management of products, shifting the

burden for dealing with discarded consumer products previously borne by state and local governments to the recycling program.

Although government oversight is important, stewardship organizations and/or producers are responsible for implementing the programs. Therefore, reimbursing the department for its costs incurred in "implementing the program functions of future recycling programs" may unnecessarily drive up the program's costs. ISPA has further concerns with the draft legislative language in Appendix A that program budgets cannot cover legal fees or advocacy efforts. As separate legal entities, stewardship organizations are entitled to defend themselves and advocate on their own behalf. For these reasons, ISPA opposes reimbursing DEP for "implementing" the program and strongly opposes the language barring program budgets from accounting for legal and advocacy costs.

3. **Minimum program standards for education and outreach, and on-going evaluation of the effectiveness of education and outreach efforts.**

DEP proposal:
"No program can be successful without collection site staff and consumers knowing about the program and how it works. Staff turnover at collection sites (often retailers and/or solid waste facilities) is ongoing, as are changes in residents in Maine. Evaluation of education and outreach efforts identifies which initiatives are most effective, and where additional focus is needed. Manufacturers can use the information gained to achieve cost-effective continuous improvement in their programs."

ISPA response:
ISPA agrees that on-going education and outreach is important to achieving a recycling program's objectives. Nevertheless, we caution that not all recycling programs are identical. Different programs may require outreach to different stakeholders and each program should have the latitude to plan and develop an education an outreach program that is tailored to its objectives. For example, the mattress industry has found that for our products, targeted outreach to established collectors (retailers and solid waste facilities) and users (purchasers of new mattresses, families that are moving, hotels and institutions like universities, etc.) as opposed providing the same level of outreach to all state residents, is most effective and efficient. A minimum level of education and outreach for all Maine consumers may not achieve desirable benefits but could greatly increase program costs. For these reasons, ISPA opposes DEP's proposed changes to existing Product Stewardship framework law.

4. **Measurable, enforceable goals and defined consequences for non-compliance.**

DEP proposal:
"Measurable, enforceable goals (e.g., recycling rate, consumer awareness, convenient collection), and defined consequences for non-compliance. When manufacturers are responsible for paying for the recycling of collected products, they have a disincentive to collect or to promote the existence or ease of use of a collection system. Minimum standards for locations of collection sites along with a ban on fees at collection are critical to counteracting the financial incentive manufacturers have to discourage consumer

participation. Repercussions for insufficient performance or non-participation on the part of manufacturers must be practical to implement. The Department must have the authority to direct program changes if the program fails to make sufficient progress toward achieving program goals."

ISPA response:
ISPA disagrees with DEP's recommendation. Where no recycling program currently exists, and neither the state nor the industry has any factual basis for understanding the challenges and unforeseen problems that lie ahead, a degree of flexibility and good faith give and take between the state and the recycling program is necessary to develop and implement a practical, efficient, and effective recycling program. For example, many recycling program face fluctuations in end markets for recycled materials. Likewise, the volume of products discarded may change as the economy changes. The recycling program has no control over these external factors, yet they can have a substantial impact on the volume of materials recycled, the program's total costs, and the overall efficiency of the program. A program needs the ability to absorb these fluctuations as they occur. While it is important that parties be held responsible for seeking to achieve goals that they have set (with input from the state), we think it would be impractical, unrealistic, arbitrary, and unfair to threaten a recycling program with a significant financial consequence if it cannot achieve established goals due to factors outside of its control. We disagree with DEP's recommendation to the extent that it appears to assume that such external factors either will not occur or are irrelevant to whether "consequences" are appropriate. For these reasons, ISPA opposes the inclusion of enforceable goals in the Product Stewardship framework law.

5. **Financial incentives for collection site participation and for consumers to return products to collection sites.**

DEP proposal:
"Financial incentives for collection site participation and for consumers to return products to collection sites. Successful programs provide an incentive for collection to either consumers or third-party collection agents or both. Collections in Maine's mercury thermostat recycling program increased significantly when the $5 incentive was implemented, and again when a $10 incentive was offered for a limited period of time. A similar jump in collections was achieved in Maine's mercury auto switch recycling program when the $4 incentive to collection sites was implemented. Maine's Bottle Bill program consistently achieves the highest return rate, with consumers motivated by the deposit/return payment system."

ISPA response:
ISPA agrees that financial incentives to collection sites and consumers may increase the number of units that a recycling program collects. Nevertheless, incentive programs also entail additional costs and challenges. Given DEP's justified concern about whether mattress recycling in Maine can be achieved at a reasonable cost, ISPA would oppose changes to existing law that would require all recycling programs to provide these types of incentives. Once again, whether to provide incentives under a particular recycling program involves a number of factors that can vary significantly from one program to the next. It would be inappropriate to amend existing

law to adopt a “one size fits all” approach on this issue. For these reasons, ISPA opposes a change to existing law that would make financial incentives “necessary” for all recycling programs in Maine to “achieve program collection goals”. Instead, we propose that a decision on whether to include incentives in a program should be based on a full evaluation of the incentive as part of an entire recycling program.

* * *

We look forward to working with the DEP, the Legislature and other stakeholders to identify options for promoting mattress recycling in Maine.

Please contact the undersigned should you have any questions regarding these comments.

Sincerely,

Marie Clarke
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PhRMA
RESEARCH • PROGRESS • HOPE

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Mike Karagiannes
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Dear Mr. Karagiannes,

The Pharmaceutical Research and Manufacturers of America (PhRMA) represents the country's leading innovative biopharmaceutical research and biotechnology companies, which are devoted to discovering and developing medicines that enable patients to live longer, healthier, and more productive lives. PhRMA respectfully submits these comments in response to the Department's Annual Product Stewardship report, submitted to the Legislature in January 2019. Specifically, we wish to offer comment regarding the Department's identification of pharmaceuticals as a candidate program for a new Extended Producer Responsibility ("EPR") program.

The biopharmaceutical industry in the United States remains committed to working with multiple stakeholders to help address issues associated with prescription medication adherence and prescription drug abuse, safe disposal of prescription medicines.

PhRMA believes that any stakeholder approach should focus on educating patients on how to securely dispose of unused pharmaceutical products. PhRMA launched MyOldMeds in 2015 to educated patients on how to quickly, safely, and securely dispose of unused medicine. Instead of implementing a flawed and potentially unsuccessful program, we urge Maine to consider meaningful, measurable and comprehensive mechanisms to educate consumers on how to safeguard medicines in the home, how to ensure patients are taking their medicines as prescribed – thereby significantly mitigating unused medicines in the first place – and how to safely and securely dispose of their truly unused medicines in the household trash.

In-home medicine disposal offers many benefits. It removes the medicines from the home immediately so that the medicine is not available for misuse or abuse, and it does not create any additional environmental impact or cost. It also gives community members the ability to handle medicine disposal discretely and independently, and protects medical privacy when done properly.

The "MyOldMeds" Program (http://myoldmeds.com) is a consumer education program that instructs patients on how to safely dispose of medicine in the home or where to find current

take back programs in their community. To safely dispose of medicines in the home, PhRMA recommends these easy steps:

- Step 1: Pour medication into a sealable plastic bag. If the medication is in solid form (pill, liquid capsule, etc.), add water to dissolve it.
- Step 2: Add kitty litter, sawdust, coffee grounds or another mixing material to the plastic bag to make the solution less appealing for pets and children.
- Step 3: Seal the plastic bag and put it in the trash.
- Step 4: Remove and destroy all identifying personal information (for example, the prescription label) from the medication containers before recycling them or throwing them away. This helps to ensure medical privacy.

Research demonstrates that household trash disposal is effective for disposing of unused medicines. For many, in-home medicine disposal offers a simple, convenient way to dispose of unwanted, unneeded or expired medication. Because all households already participate in the collection of household trash, in-home drug disposal is a safe and preferred way of disposing of unused, unwanted or unneeded medicine.

Further, in-home disposal effectively manages any potential environmental issues given that household waste in the U.S. is either incinerated or disposed of in capped, double-lined landfills equipped with leachate collection and treatment systems. Both technologies effectively isolate waste from the physical environment. In-home disposal also avoids the environmental carbon footprint and costs of trips to a collection site and of separately shipping the collected pharmaceuticals for destruction[1].

Other approaches to disposal of unused medicines bring additional complexities. The DEA requires any collector of unused medicines to have a DEA registration to collect at the site of the registration. This means sites are limited to healthcare facilities, pharmacies, a manufacturer's DEA registration address, and law enforcement locations. Many takeback programs have had challenges in securing community-wide kiosk locations. And for good reason: kiosks are necessarily a collection point – a very visible one – for prescription medications. Unfortunately, this also makes them a target for diversion, so we understand why pharmacies do not want to take on this liability.

However, educating patients on how to dispose medicines at home, as described above, avoids the complexities of Federal law and regulation and ensures that medicines are not aggregated in the community, which creates a risk of medicines being diverted or abused. Further, simply shifting funding and coordination activities of a stewardship to manufacturers does not mitigate the compliance obligations of local pharmacies and law enforcement agencies under federal law.

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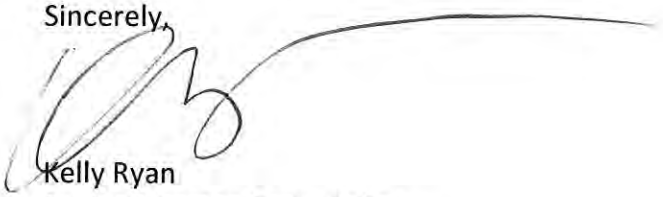
[1] Sherri M. Cook, Bryan J. VanDuinen, Nancy G. Love, and Steven J. Skerlos. Department of Civil and Environmental Engineering, and Department of Mechanical Engineering. *Life Cycle Comparison of Environmental Emissions from Three Disposal Options for Unused Pharmaceuticals.* http://pubs.acs.org/doi/abs/10.1021/es203987b.

We appreciate the opportunity to comment on the Annual Product Stewardship report.

Sincerely,



Kelly Ryan
Senior Director, State Policy

National Electrical Manufacturers Association
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DATE: **February 14, 2019**

TO: **Mike Karagiannes**
Bureau of Remediation and Waste Management
Maine Department of Environmental Protection

FROM: **The National Electrical Manufacturers Association (NEMA)**

RE: **NEMA Comments on Maine DEP "Annual Product Stewardship Report," dated January 2019**

The National Electrical Manufacturers Association (NEMA) is the primary trade association representing the interests of the US electrical products industry. Our nearly 325 member companies manufacture products used in the generation, transmission, distribution, control, and end-use of electricity, constituting the very foundation of the worldwide infrastructure for supplying power.

Most electro-industry products are long lived and used in commercial and industrial settings. Some, however - such as household lamps, batteries, and thermostats - are consumer oriented and sold primarily for residential applications. Several of these are the focus of product stewardship laws in Maine and our members have a long history of working with Maine legislators and regulatory authorities to implement these laws and the programs they authorize.

Once again, NEMA appreciates the opportunity to comment on the Maine Department of Environmental Protection's (DEP) report on Product Stewardship in Maine. We look forward to continuing discussions with DEP staff on how best to maintain the success of our stewardship programs going forward.

Our comments on the 2018 report – which focus mainly on the department's recommendations - are presented below in the order in which the topics appear in the report.

Framework law – 38 M.R.S. chapter 18

GENERAL COMMENT
In its report, the DEP contends that Maine's existing "Framework Law" contains *"significant deficiencies . . . . that would allow for approval of a manufacturer program plan which would not result in an effective program (sic)."* The department presents a number of recommended changes to address these perceived shortcomings but cites no evidence that they would achieve their intended effect. The report simply contends that a "*program plan designed only to meet the basic requirements in the Product Stewardship framework law will not be guaranteed to be successful."*

In truth, no government mandated program – whether funded and operated by regulated stewards or the government itself – can ever be ***guaranteed*** to be successful. For "Extended Producer Responsibility" (EPR) programs such as those addressed by the report, the most obvious and pertinent reason for this is that behavior needed to ensure success is out of the control - and the authority - of the program operators; *i.e.,* product manufacturers.

For most products, manufacturers are at least two steps removed from the parties that control the product at end of life and determine where and how to discard it. Manufacturers sold the unit into the market years or even decades in the past, to a customer that later removes it from service. The manufacturer has no involvement with or authority over that person's decision to recycle or dispose, yet is held responsible by the law for the outcome nonetheless.

It is therefore unproductive to focus so pointedly on the behavior of manufacturers as the key determinant in whether an EPR program is achieving to its "highest" potential. Yet virtually all of the proposed changes to the "Framework Law" seem guided by this presumption.

That being the case, the department is recommending changes that, if enacted, would create the most burdensome and intrusive oversight framework of any state in the U.S. It would strip manufacturers and their collective stewardship organizations of independence and flexibility and allow virtually no limit on DEP's requests for greater expenditure. In addition to supplying funds for repetitive analyses of metrics (discussed below), the department seeks to impose highly specific financial directives - *e.g.,* an annual remittance to DEP of as much as $100,000 for oversight; funding a *"minimum ½-time emplouee of esch producer or stewardship organization dedicated to implementing the program in Maine (sic)."*[1]

Integrating these requirements into new and existing EPR programs in Maine would impose dramatically higher costs on the industry stewards who not only fund the programs but (in most cases) continue to sell the targeted products to Maine consumers. These higher costs of managing old products within the state in turn would force manufacturers to raise prices of new products to absorb the expense, which likely would encourage cross-border purchases of lower priced products and loss of tax revenue.

PERFORMANCE STANDARDS

DEP is requesting authority to require programs to undertake potentially limitless expenditures towards amorphous goals such as "***effective*** *education and outreach*" and "*consumer awareness,*" as determined through third-party surveys. Mandatory "Performance Goals" that would become part of every program could include awareness thresholds of 50% within three years or recycling rates that must reach 80% within 6 years.

No recycling program for any product, in any jurisdiction in the world, has achieved a collection rate of this level – with the exception of lead acid automobile batteries that have high intrinsic value and are recovered through a unique, reverse distribution framework that is not possible for other products.

Moreover, collection rate is a questionable basis for judging a program because the amount of product available to be recovered in a particular jurisdiction in a given year – the denominator of

[1] Requiring industry stewards to hire in-state employees to implement mandatory programs suggests that regulated parties (manufacturers) are being tasked with the responsibility of enforcing compliance with state laws. Enforcement is a state function and represents the state's contribution to the "shared responsibility" framework supposedly embodied in Product Stewardship policies.

the rate calculation – most often cannot be determined with precision. Among other complications, manufacturers of widely used products sell into vast distribution systems and can provide only rough estimates of the number of units sold in a specific state. Once purchased, products can then be stored for long periods, after which they have widely variable "lifespans" due to their conditions of use.

For these and other reasons, collection rate figures are as much guesswork as science and do not constitute a sound basis for evaluating recycling programs. They are simply one, inexact factor out of many that should be used to evaluate an recycling program. The Maine DEP is recommending, however, that it be used to judge the success of the state's EPR programs and justify seemingly unfettered demands by the department to "*implement specific changes,*" such as financial incentives.

With regard to education and outreach, NEMA does not question the need for EPR programs to contain an outreach component, carefully designed to focus on parties that use or dispose of the product. Outreach and "education" efforts should emphasize the importance of recycling the product, ***especially*** if the law is accompanied by a disposal ban that renders other management options illegal.

The program must also strive to make the "generator" of the waste product aware of the collection sites and events that are available across the state, and to ensure they are sufficiently distributed to ensure all residents have reasonable access. The collection network obviously must reflect the population distribution of the state, as it makes no sense to establish numerous sites in rural, sparsely populated areas, which adds significant cost but does little to raise collection totals.

A reasonable accessibility standard is therefore a useful feature of a program plan, mainly because providing access is within the control of the program operators. NEMA supports an accessibility metric as a way of assessing an EPR program's value and performance. Education and outreach, as described above, is a necessary and complementary activity to providing access.

Regrettably, the DEC proposes to employ "*consumer awareness*" – a vague and hard to measure concept that does not lend itself to objective assessment - as the key determinant of whether a program is performing adequately. How does one assess this concept in an individual or community within an acceptable margin of error? More importantly, to what extent does "awareness" translate into behavior, and at what point does the onus transfer from a program's efforts to notify consumers to a generator's responsibility to recycle?

The programs established for NEMA Member products (mercury-added thermostats, mercury-added lamps) devote substantial resources to growing awareness among relevant target populations. Moreover, because mercury has been widely proclaimed for more than two decades as a potential threat to human health and the environment, a high percentage of consumers are predisposed to keeping products with mercury out of the waste stream. And there is no suggestion that education and outreach activities be discontinued, as long as the program is mandated to operate under the law.

At some point, however, rising investment in "education and outreach" generates little, if any, return. People who are inclined to recycle will do so while endless messaging to those who are not so inclined becomes a waste of time and money. This is particularly true of long-standing

programs that recover ubiquitous, broadly discussed products such as mercury-added lamps and consumer electronics, as well as other common household recyclables.

NEMA welcomes discussion of how to drive higher recycling rates in the context of each specific program and product, where characteristics such as the age and history of the program, target audiences, market dynamics, sales and distribution channels, number of producers, and other factors will help determine the most promising approaches. We urge the legislature to avoid the 'one-size-fits-all' prescription that DEP seeks to integrate into Maine's EPR programs.

INCENTIVES TO RECYCLE

Another of the DEP's prescriptions for the state Framework Law is the authority to require the "*implementation of financial incentives or a deposit/refund system if appropriate for the product*" if the department determines the program has failed to "*make adequate progress*" towards its goals.

Over the years, Maine has continually touted the impact of financial incentives in motivating recycling behavior in the state's mercury thermostat program. The department now offers this as rationale for potentially require all mandated programs to "*finance . . . . any incentives necessary to achieve program collection goals . . .*"

As NEMA and the industry-funded Thermostat Recycling Corporation (TRC) have consistently demonstrated, however, financial incentives – or "bounties" – have not shown to be effective at driving higher recycling rates in Maine or Vermont, the other state that requires manufacturers to pay $5 for each mercury thermostat returned to a collection site. In reality, thermostat recycling in Maine and Vermont has followed the trend typically observed in all states/regions over the years. Enactment of a disposal ban stimulates use of voluntary programs and when recycling becomes mandatory, compliance rises dramatically and large volumes of units that previously had been in storage fill collection bins. Collection rates ultimately moderate and decline when no new units are sold or installed and that has been the case over time in VT and ME.

Close inspection of year-by-year collections generally reveals that incentives reward contractors for behavior they were exhibiting already, and in other cases motivate them simply to switch collection sites. Also, a significant portion of incentive payments in ME and VT have gone unclaimed each year – if the payments truly motivated behavior, this would not happen.

Finally, bounty systems are costly, complicated, and vulnerable to fraud and abuse. Artificially placing a value on a waste product creates the potential for illicit trade practices (*i.e., shipping products in from nearby states)* and transactions that result in incentives going to parties for whom they were not intended. We urge the legislature to examine this issue carefully before imposing such a requirement onto any new or existing EPR programs.

Mercury Lamps – 38 M.R.S. § 1672

The Maine DEP report recommends a significant modification to the statute governing the state's EPR program for mercury-added lamps. NEMA opposes these changes in part for the reason discussed in the previous section. Similar to the Framework Law, DEP is seeking changes to the mercury-lamp statute that would greatly expand the department's administrative control over the program, force manufacturers to undertake virtually limitless "investments" in activities that likely will produce very little return, and rely on amorphous performance standards that likely will be a recipe for failure.

There are two additional, more substantive reasons why the DEP's proposed changes to this law are objectionable. First, the department seeks to extend the scope of "covered products" beyond waste lamps generated by households; thereby incorporating lamps disposed by commercial, industrial and institutional (CII) users. This amendment is entirely unnecessary and would seriously impact the independent providers of lamp recycling services who currently serve those generators.

The reality of the lighting market is that the ***vast*** majority of mercury-added lamps are purchased for and used within the CII sector. In almost all situations, generators within that sector are required under Federal Universal Waste (UW) Law to recycle those lamps at end of life.[2] An entire independent lamp recycling industry has been in place for nearly 20 years providing these services through private, individual contracts with retailers, commercial buildings, local governments, schools, stadiums, shopping centers, and other parties subject to the UW requirements (see www.ALMR.org). There simply is no need for the State of Maine to intervene in and disrupt these private service arrangements.

Yet the most compelling reason against expanding Maine's lamp recycling program is that the products it was most intended to capture – compact fluorescent lamps (CFLs) - are disappearing from the US market. CFLs have been displaced by light emitted diode (LED) products that, since the law was enacted, have become widely available at comparable price points. Moreover, CFL lamps no longer meet U.S. EPA ENERGY STAR specifications and thus no longer qualify for utility rebates. In 2018, NEMA estimates CFLS comprised approximately 7% of the consumer light bulb market, and the industry expects them to be virtually eliminated within the next few years. (See Appendix I for NEMA's latest shipment data for LED, Halogen, and CFL products)

In summary, when establishing priorities among environmental initiatives during the 2019-2020 session, revisiting the lamp recycling program in Maine rightfully should be at the bottom of the list. The overwhelming portion of mercury-added lamps entering the waste stream stem from CII facilities that are required to recycle them under Federal Law, while the far smaller numbers that emanate from households will soon be gone from the market.

Note also that homeowners seeking to recycle the remaining CFLs as they come out of use have ample access to collection sites both within and outside of the industry-funded program. An internet search using www.earth911.org of Piscataquis County - Maine's least populated region - produced a number of alternatives within a 20 mile radius including TruValue and other hardware stores as well as municipal transfer stations.

The problem that Title 38 § 1672 was enacted to address has been ***resolving itself*** in the intervening years. There is nothing to be gained by "ramping up" the program at this late date aside from forcing manufacturers to redirect large amounts of money and resources away from more productive uses.

Consumer Batteries (38 M.R.S. § 2165)

The NEMA Dry Battery Section encompasses the most prominent, US-based manufacturers of primary (*i.e.,* single-use) batteries including Energizer, Duracell, Panasonic, and Rayovac. As noted in the DEP report, these manufacturers promoted introduction of an "all battery" recycling

[2] Maine's Universal Waste regulations impose similar requirements – see https://www1.maine.gov/dep/waste/hazardouswaste/lamp_disposal.html

bill in the Maine legislature in 2016 and supported its passage, which did not occur. A number of factors over the intervening period have led the industry to change its position on the issue and we therefore urge the legislature not to accept DEP's recommendation to enact all battery recycling legislation in the current session.

The legislative framework that NEMA stood behind in 2016 would have established a fair and economically stable system for recycling batteries in Maine in that it required ***all*** parties that introduce primary batteries to the market to contribute to the cost of collection and processing, proportionate to their sales. Regrettably, this "shared responsibility" approach was rejected by many influential stakeholders who sought to avoid this obligation through 'carve-outs' in the legislative language, thereby acting as "free-riders" and increasing the burden of cost and program management on the manufacturers who sponsored the law. It became an increasingly untenable situation for NEMA members, who eventually withdrew their support.

NEMA has no reason to believe the same scenario will not repeat itself in the current legislature. There are simply too many political factors at play for a fair and equitable program structure to emerge from the legislative process. The same dynamics have occurred in other states that considered this issue as well.

In addition, NEMA has affirmed in the ensuing years that recycling primary batteries is in almost all cases a ***net negative*** for the environment, more harmful in many ways than disposing them in landfills. Primary, single use alkaline batteries (*e.g.,* AA, AAA, C, D, and 9-volt) are classified as non-hazardous solid waste per applicable US EPA test protocols.[3] Manufacturers eliminated toxic metals such as mercury and cadmium from these products in the early 1990s. At least two states – Connecticut and Massachusetts - advise their citizens to put spent alkaline batteries in regular trash to be landfilled.

A variety of studies have shown that recycling systems require conditions that virtually never exist for recycling primary batteries to be environmentally preferable to landfill disposal (*e.g.,* high percentage of material recovery to beneficial uses, limited transport distances). In a recent evaluation by scientists affiliated with the Massachusetts Institute of Technology, recycling scored lower than landfill disposal in ***seven out of ten environmental indices***, including Global Warming Potential.[4]

Before primary batteries reach a recovery or recycling facility, significant amounts of vehicle fuel and electricity are consumed during collection, sorting, storage and transportation. Each of these steps generates waste products and other environmental impacts – factors that must be considered when assessing the life cycle of battery products in the context of alternative, end-of-life management options.

For these reasons, NEMA respectfully recommends that the legislature not enact a mandate to recycle primary batteries in Maine before conducting its own evaluation of whether doing so would constitute a net benefit for environment and public health. NEMA members would appreciate the opportunity to lend their expertise to and participate in such an effort.

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[3] See https://archive.epa.gov/epawaste/hazard/web/html/batteries.html. Primary batteries do not exhibit any of the characteristics identified in 40 CFR part 261, subpart C.

[4] Olivetti, Elsa and Gregory, Jeremy, Camanoe Associates, March 2018, "Life Cycle Assessment of Alkaline Battery Recycling, A report for the Corporation for Battery Responsibility,"

Contact

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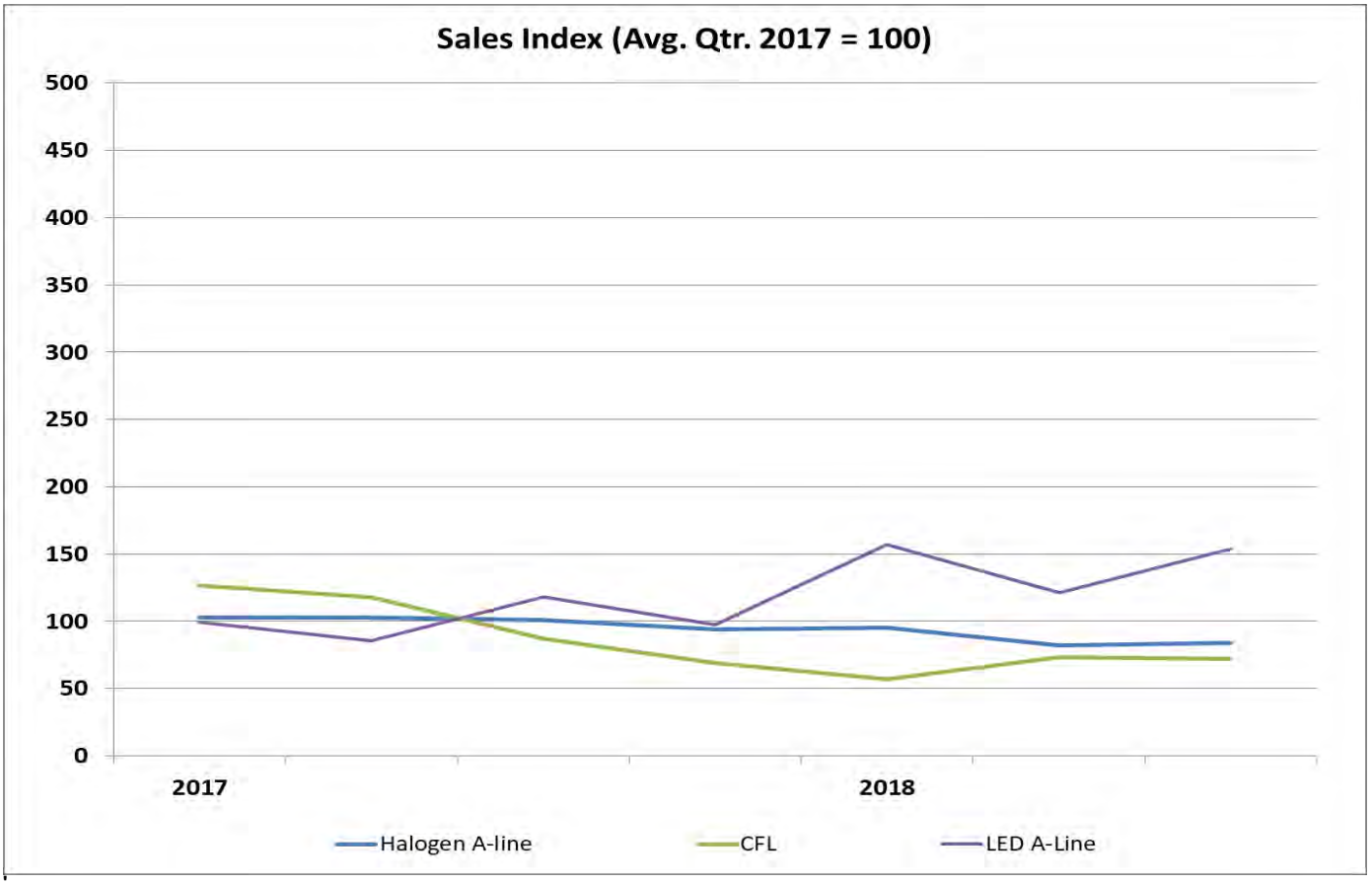
APPENDIX 1

LED A-line and Halogen Lamp Shipments Increase in Third Quarter 2018
December 2018

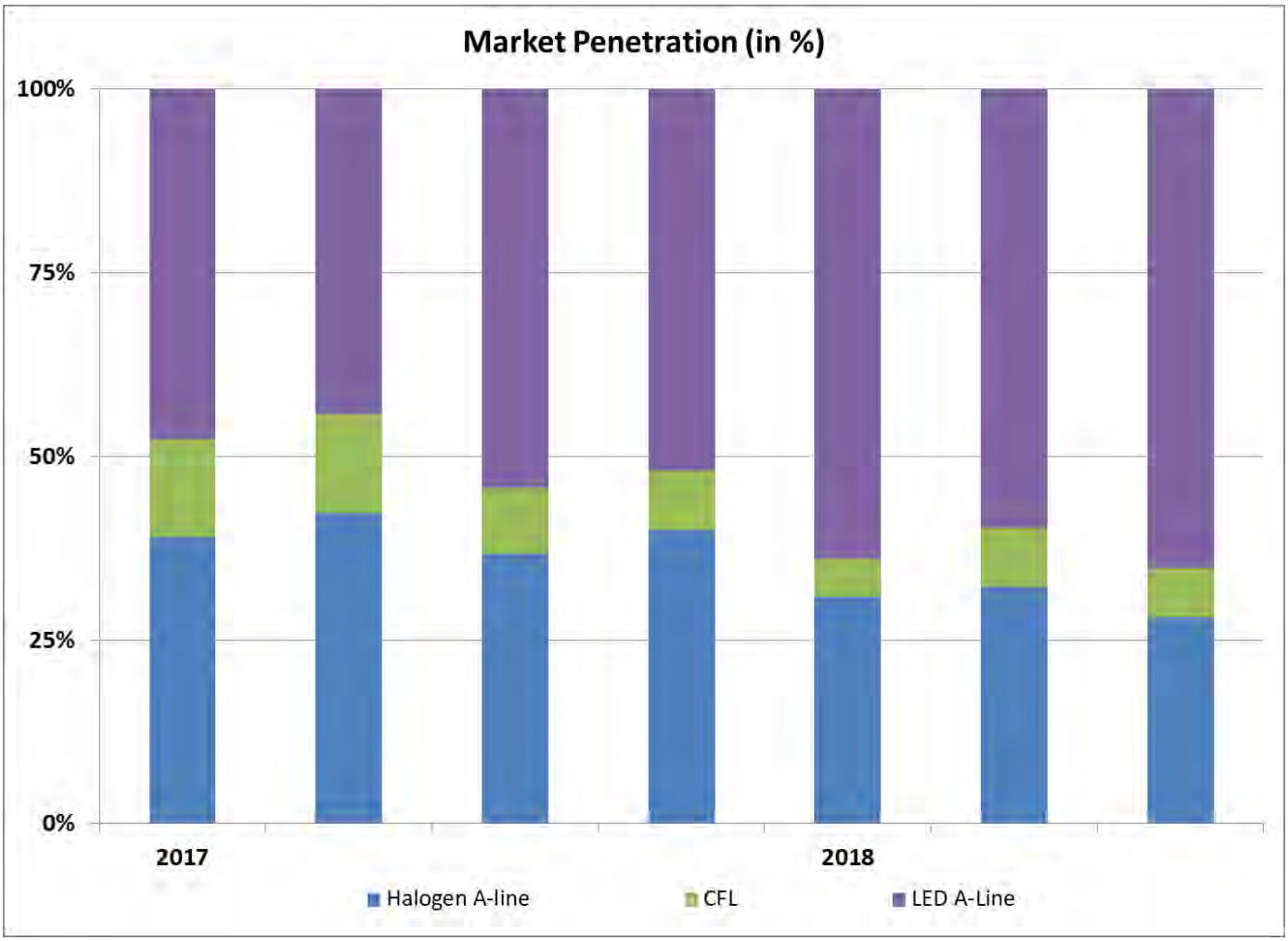
NEMA's A-line Lamp Index has been updated. To appreciate the changes we have made please read our announcement here

LED A-line shipments increased 27 percent compared to 2Q 2018 and 30.6 percent compared to 3Q 2017. Halogen A-line lamps posted an increase in shipments in 3Q 2018 compared to the previous quarter (1.7 percent), and a decrease compared to the same quarter a year ago (16.8 percent.) CFL A-line lamp shipments decreased compared to 2Q 2018 and 3Q 2017 (2.3 percent and 17.3 percent, respectively.)

LED A-line lamps account for 65.1 percent of the consumer lamp market, followed by halogen A-line lamps which account for 28.1 percent. CFLs comprised the remaining 6.7 percent of the A-line consumer market.



The NEMA Lamp Shipments Indices are composite measures of NEMA-member companies' U.S. shipments of compact fluorescent, halogen, incandescent and LED replacement lamps. Product shipments data are drawn from NEMA statistical surveys and are adjusted for seasonal fluctuations.



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PLASTICS
INDUSTRY ASSOCIATION

February 14, 2019

Mike Karagiannes
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Via email: mike.karagiannes@maine.gov

SUBJECT: Comments on Implementing Product Stewardship in Maine, 2019

Dear Mr. Karagiannes:

The Plastics Industry Association (PLASTICS) is the national trade association that represents the entire plastics supply chain, the third largest US manufacturing sector employing almost one million people, 3,170 of whom live and work in Maine. Plastics play an important role in the Maine economy, and over 192,200 Mainers work in sectors dependent on plastics. We are grateful for the opportunity to comment on the Annual Product Stewardship Report and express our concerns about additions to the framework law and listing packaging as a candidate product.

We support the idea that manufacturers play an important role in being good stewards of the environment. This is why our industry implements sustainable materials management strategies – concepts that consider the entire lifecycle of a product. This approach requires looking beyond just the end-of-life aspects of a product and giving credit to manufacturing practices and the advantages of different materials which garner positive environmental benefits. We are opposed to extended producer responsibility (EPR) programs namely because they are an inefficient use of resources, are not flexible to changing waste streams, can hurt small businesses, do not fairly represent all manufacturers, and further hide the cost of recycling and recovery from consumers. Nevertheless, we would appreciate the opportunity to work with the Maine DEP on more impactful efforts to increase plastics recovery in the state.

Changes to Framework Law

While we understand the intent of the changes to the framework law, we believe this would further complicate the law without making it operate more efficiently or effectively. For example, the law already requires convenient and adequate collection systems, but the recommendation attempts to further specify what that collection should look like. Other administrative burdens from the recommendations we believe would detract from program success. We're also concerned with how the department would determine adequate progress and what specific changes it may direct on manufacturers.

Packaging as a Candidate Product

We understand the importance of making sure plastic packaging is recycled or reused. We also recognized the important role that plastic packaging serves in lowering the environmental impact of packaging production and protecting the products they contain from going to waste. We also want to note that important environmental, social and business decisions are made when choosing the design elements of packaging – often leading to plastic being a prime candidate.

In addition, the industry is already taking many important and valuable voluntary steps to make sure that plastic packaging is recovered after the end of its useful life. Some of these efforts are:

- educating the public on how to properly recycle or dispose of the packaging,
- supporting the expansion of collection opportunities,
- developing new end markets that increase demand for recycled plastics,

• promoting the design of plastic products in a way that facilitates recovery,
• promoting clean-ups, and
• ensuring plastics are managed properly at manufacturing sites through programs like Operation Clean Sweep and Zero Net Waste.

Despite these efforts and the role of packaging, states continue to look for methods of implementing EPR programs for packaging, even though packaging come in many shapes, sizes and materials. For multiple reasons, they have found that EPR programs for packaging would not be sustainable. In 2017, the state of Connecticut's Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste did not recommend implementation of extended producer responsibility. PLASTICS recommends the Maine DEP review the recommendations of that task force before pursuing packaging EPR.

Additionally, we do not think that packaging meets the candidate criteria for a stewardship program, nor the four that are specifically mentioned in this report. Those criteria and our response are below.

Criteria B: Increase the recovery of materials. Mandating added administrative costs on manufacturers will not alone change consumer behavior.

Criteria C: Reduce the cost of waste management to local governments and taxpayers. The additional cost to manufacturers will be passed down to consumers.

Criteria D: There has been success in other states or countries. As mentioned earlier, Connecticut did not determine that EPR was a viable solution; and the examples in the report are not representative of US consumers.

Criteria E: Voluntary efforts are insufficient. The report states that voluntary efforts have not taken place in Maine, but this ignores the fact that the industry is in the process of making successful projects scalable and replicating them in other states.

PLASTICS advocates for the responsible recycling, reuse, and recovery of all plastic products. We do not wish to see any of our products used irresponsibly or disposed of incorrectly. While we respectfully oppose the listing of packaging as a candidate program, we reiterate our request to work with the Maine DEP to develop meaningful and practical solutions ensuring the responsible recovery of all plastics.

Respectfully,

Shannon V. Crawford
Director, State Government Affairs

MAINE BEVERAGE ASSOCIATION

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To: Mike Karagianees, Maine DEP
17 State House Station, Augusta, ME 04333

From: Newell A. Augur, Executive Director

Re: Comments to Implementing Product Stewardship in Maine, January 2019

Date: February 14, 2019

On behalf of the Maine Beverage Association, the trade group representing Coca Cola Northern New England, Pepsi Beverage Company, Poland Spring and Polar Beverages - the local distributors of regular and diet beverages, water, juices and sports drinks, among other refreshing non-alcoholic products - thank you for the opportunity to provide comment on the report, Implementing Product Stewardship in Maine. Our remarks are specific to that portion of the report addressing Maine's beverage container redemption law, also known as the bottle bill.

Overview

When the beverage industry first started to develop in this country, local distributors - on their own initiative - put a deposit on containers in order to reuse them, long before there was ever any legislation forcing them to do so. In the mid 1960s, distributors realized that collecting, washing and reselling these containers was unsanitary and extraordinarily expensive. They also discovered that their customers didn't like refillable containers. When local distributors transitioned away from that model, they did so at a time when our country was beginning to appreciate the importance of safeguarding clean air, clean water and a pristine environment. As beverage containers – which previously had a deposit and were being returned to the distributor - suddenly began appearing on the side of the road, the local distributors became a natural target.

The bottle bill was passed as a means to address litter. In the ten remaining states that still have one, the bottle bill has morphed, unnaturally, into a recycling program. The program has been very successful cleaning up litter caused by beverage containers and recycling beverage containers. But its success is limited to beverage containers and they make up only 4% of the total waste stream.

The bottle bill should not be classified a product stewardship program. It is a mandate that forces the use of a particular delivery and pickup model for certain beverage packages. The model is designed to replicate the operation of a refillable-based system for bottles – a delivery system broadly rejected by consumers nearly 40 years ago. An authentic product stewardship program would include all producers selling any beverages in any packages; Maine's bottle bill excludes all milk and milk derivatives, certain cider and blueberry juices, a number of other specialty products, and several additional categories of beverage packaging.

Moreover, product stewardship is epitomized by the flexibility it gives producers to address the lifecycle impacts of their products. Producers design and manage their own collection and processing programs to fulfill that responsibility. Government sets goals and performance standards, and producers determine the most cost-effective means of achieving those targets. Beyond that, product stewardship programs operate with minimal government involvement.

In marked contrast, the bottle bill is proscriptive, not cost-effective, limits producer flexibility, and has significant government involvement.

Costs

Bottle bill handling taxes exceed $35 million dollars every year. This tax is paid directly to the redemption centers by the local distributors. Distributors incur additional costs transporting containers from redemption centers, crushing and bailing those containers, and selling them in the materials market. When the materials market is robust, the amount of money a distributor receives from the sale of those materials can cover all other processing costs. It has never been robust enough, however, to offset handling taxes.

We are not entirely convinced that a label registration system is the most efficient means to combat non-compliance given the proliferation of alternative routes to market and given the significant investment of time maintaining that registry requires. Having said that, we appreciate the Department's efforts to streamline the process by which distributors register labels for every beverage product sold in Maine. Previously, distributors were required to provide photocopies of labels for every product sold. The Department has simplified this to allow distributors to certify that their product labels are in compliance. The Department also has developed an electronic filing system that has facilitated the online registration of products.

Fraud

The MBA Commingling Group (Coca Cola Northern New England and Pepsi Beverages Company) estimates that of the 219 million containers it redeemed in 2017, 24.2 million of those are fraudulent. Factoring the 5 cent redemption, the 3.5 cent handling fee and a 2 cent pick up and processing cost on every container, fraud costs the members of our commingling group – and ultimately our customers - $2.54 million each year.

We made a similar calculation 10 years ago as directed by the Legislature and submitted those findings to the Department of Agriculture. Neither the bottle bill nor our total sales numbers have changed much, if at all, during the past decade so those calculations remain relatively accurate. There is a slight increase - from $2.48 to $2.54 million - that reflects the increase in the handling

fee - from 3 cents to 3.5 cents - in 2011.

There are two primary sources of fraud: 1) containers purchased out of state (usually New Hampshire) that are brought into Maine and redeemed here; and 2) the shorting of bags by redemption centers to distributors (i.e. when a redemption center gives us a bag that ought to have 324 twelve ounce cans in it, but has given us something considerably less than that.

A conservative estimate for the total amount of fraud in Maine's bottle bill would be $7.5 million per year. The total number of containers in the bottle bill is in the neighborhood of 900 million - 1 billion a year, so $7.5 million discounts the experience of non alcoholic distributors.

We appreciate the Department's efforts to address bottle bill fraud. We believe that giving the Department the unqualified ability to revoke the license of a redemption center deliberately shorting bags or knowingly accepting containers from outside of Maine should lose their license will help address the problem.

The root of the problem, however, is identifying who those bad actors are. Current law does not allow an initiator of deposit to adjust what is paid to a redemption center even if the amount of containers collected is substantially less than what the redemption center claims has presented for pick up. Further, the Department does not have staff or resources to visit redemption centers and conduct audits on a monthly or even yearly basis to determine which redemption centers are providing accurate counts, and which are not.

Given the logistical challenges of picking up containers from more than 400 redemption centers across the State, catching one bad actor one time has little if any practical impact on reducing fraud. Because there are no immediate fiscal consequences for shorting bags or accepting foreign containers, initiators of deposit are literally powerless to stop it from happening.

We will be presenting proposed legislation to introduce an auditing procedure for beverage containers pick-ups that we believe, along with the licensing changes proposed by the Department, will have a more meaningful impact in addressing fraud.

Commingling

The legislation that created commingling groups was passed in 2003. At the time, redemption centers were advocating for an increase in the handling fee. They also were advocating separately for legislation that would require local distributors to allow redemption centers to commingle beverage containers– as is done in Oregon and Michigan – so as to reduce the number of sorts that redemption centers have to perform and save them space in their facility.

The Legislature essentially combined the two bills. They created a framework to allow distributors to establish commingling agreements and then created incentives to "encourage" distributors to enter into those agreements. These incentives included putting a ½ handling fee increase on all beverage containers that were not commingled and requiring distributors who could not commingle to remit their unclaimed deposits to the state. As a practical matter, the only distributors who were capable of commingling were the ones who had a significant employment presence in Maine. The Legislature then gave the distributors nine months to form qualified commingling groups and register those entities with the Department of Agriculture.

The investment that local distributors made – and continue to make today – in time and money is significant. The two major existing commingling groups have been in existence for fourteen years (a third one was formed earlier in this decade) and this has prevented a considerable amount of additional sorting for redemption centers. Our product lines continue to change, but for the most part the number of sorts the members of the Maine Beverage Association are responsible is incredible small given their total volume. For example, the MBA Commingling Group sold approximately 250 million containers in 2017; all those containers can be sorted into eleven boxes.

The MBA Commingling Group has brought in several smaller distributors over the past fifteen years of its existence. The group would readily admit additional members – regardless of their size - who can identify the number of cases that they sell in Maine. We also stand ready to provide technical and legal assistance to the Department's in its effort, as set out in the report, to create a new commingling group for out of state distributors.

As the report notes, distributors are not required to provide reports regarding marketed and recycled materials. However, the MBA Commingling Group and the Polar/Poland Spring Commingling Group have provided this information on several occasions at the request of the Department of Agriculture and at the request of the Office of Program Evaluation and Government Accountability as part of June 2018 evaluation of the bottle bill.

Conclusion

Thank you for the opportunity to provide these comments. We would be pleased to provide any additional information in this regard.

Consumer Technology Association™

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February 14, 2019

Mike Karagiannes
Maine Department of Environmental Protection
17 State House Station
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Via email: mike.karagiannes@maine.gov

Re: Comments on *Implementing Product Stewardship in Maine* (January 2019) Report

Dear Mr. Karagiannes,

The Consumer Technology Association™ (CTA) respectfully submits these written comments on the "Implementing Product Stewardship in Maine" (January 2019) report from the Maine Department of Environmental Protection (DEP). CTA appreciates Maine DEP's annual review of the implementation of product stewardship laws in Maine and opportunities to improve existing programs.

CTA is the trade association representing the U.S. consumer technology industry, which supports more than 15 million U.S. jobs. For over 10 years, CTA members have participated in Maine's product stewardship program for electronic waste (e-waste). CTA appreciates this opportunity to provide comments and share insights on our industry's product stewardship experience with the Maine DEP.

CTA supports competitive markets that drive operational efficiencies which in turn lower costs for the entire recycling system. CTA does not support any policy approach that stifles competition in the recycling market or brings the currently competitive system under government control/operation. CTA supports approaches that advance the collection and recycling infrastructure in the U.S. while being responsive to product innovation.

With that in mind, CTA would like to provide the following comments to the "Implementing Product Stewardship Maine" (January 2019) report.

- **Framework Law** [Section II(B), Section III(A) and Appendix X of the Report]
  There are several items of concern CTA has with the proposed changes to the framework law primarily centered around the inclusion of prescriptive requirements that may not be appropriate for all types of EPR programs.
  - Minimum Staffing Levels: The minimum staffing standards proposed are not necessary for all types of EPR programs. Inclusion of this language to require a ½ time full time equivalent (FTE) position may be overly prescriptive given the variation in EPR program structures among product categories and should be excluded from the recommendations. An option to determine and handle on a case-by-case basis based on specific program structure would be more appropriate.
  - Convenience Requirements: The prescriptive nature of requiring "permanent collection

sites within 15 miles of 90% of Maine residents" is not necessary for all product types and may not actually increase collection and recycling rates among residents. As consumer technology companies have experienced in various state electronics EPR programs, these convenience requirements lead to increased compliance costs with no specific correlation to increased recycling rates. Additionally, permanent collection sites are not always the most appropriate solution for certain geographical areas that might be appropriately and cost effectively served by collection events. CTA recommends removing this requirement from the proposed legislation.

- Recycling Targets: Has the Maine DEP defined what diversion methods would qualify under a "recycling rate"? Does that include waste to energy? Even in EPR programs with high recycling targets, there is flexibility on how "recycling" is defined. Additionally, very few mature EPR programs are achieving 80% recycling rates. Setting unattainable, perspective goals does not benefit stakeholders and may create unintended consequences of increasing costs for producers as programs struggle to meet recycling goals. CTA recommends removing this requirement from the proposed legislation.
- Financial Incentives: Financial incentives for consumers to return products should not be part of an EPR program. EPR programs are designed to provide end of life management opportunities for hard to recycle items or items where there is a negative recycling value. Financial incentives send the wrong message to consumers that there is value in the recycling stream which is not always the case. While the proposed changes found in Appendix A make financial incentives optional, CTA encourages removal of this language.
- General:
  - CTA disagrees with the statement "when manufacturers are responsible for paying for the recycling of collected products, they have a disincentive to collect or promote the existence or ease of use of a collection system". We have found with many of our member companies that they readily promote collection infrastructure that they financially support including in states where there is no legal obligation for them to do so. A blanket statement such as this is disheartening to read when there are industries and/or companies that have demonstrated otherwise.
  - CTA is pleased to see that language was included to allow for a point of sale fee to be assessed to consumers as an additional funding option for further consideration under an EPR structure.

- **Consumer Batteries** [Section III(C) and Appendix C]:
  CTA is concerned with the proposed sample language for the consumer battery EPR program found in Appendix C. CTA's concern primarily lies in the potential for duplicative and overlapping mandates on a product and one of its components through two separate EPR programs. Batteries found in consumer electronics are captured for recycling through Maine's manufacturer-funded e-waste program as devices come back through the recycling stream, thus making this proposal unnecessary and redundant for batteries contained in our industry's products.
- **Product Stewardship for Packaging** [Section IV(A)]
  CTA does not support EPR as an effective solution for managing packaging material. CTA strongly cautions against a state-by-state approach for packaging material which is a large, complex waste stream with a significant number of responsible producers.

  Maine is not the first state to explore a packaging stewardship program. The state of Connecticut established a Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste in 2016. The Task Force released its recommendations in February 2018 after a year of

stakeholder meetings, expert testimony, and public comments.[1] The final recommendations did not recommend product stewardship as a means of reducing consumer packaging that generates solid waste. The justifications outlined by the Task Force included concerns over the creation of a recycling monopoly through a product stewardship organization, pushing Connecticut recycling firms out of business and forcing higher costs on the collection and recycling system as a whole. There was also acknowledgement among the Task Force members that a state-by-state approach would not achieve the results touted under EPR programs in other countries.

It is unclear what the potential economic impact and costs of a packaging stewardship program would be to businesses operating in Maine. A full economic impact analysis is needed that quantifies impacts to all stakeholders (Maine DEP, producers, collectors, recyclers) and strongly encouraged prior to moving forward with any mandatory policy approach. Additionally, there are a few aspects of the Maine eport that CTA would like to address:

- Can Maine DEP provide reference/supporting documentation to or quantify the statement "a large portion of the current municipal waste stream is compromised of various types of consumer packaging. Much of it is not recyclable.". How much (in terms of a % or tons) is a "large portion"? How does that break down among packaging material types? How is Maine DEP defining "recyclable"? For example, some plastics may be recyclable but just don't have readily available recycling opportunities in Maine.
- The waste characterization study referenced in the Report is from 2011. Does Maine DEP intend to have an updated waste characterization study completed? Many significant changes have occurred in the municipal waste stream throughout the U.S. over the last several years (commonly referenced as the "evolving ton"). Updated waste characterization study data would be key to any economic impact analysis as material type significantly impacts end of life management costs.
- Regarding voluntary efforts by industry, the Report notes that DEP is "unaware of any other direct contributions by these organizations to recycling programs in Maine." It is worth noting that organizations like The Recycling Partnership and Closed Loop Fund do not provide blanket funding; rather, there is an application and evaluation process before funds are dispersed. A handful of states have started to work in conjunction with these organizations to encourage local governments or industry to apply for grants or funding. CTA encourages Maine to explore if promotion of these programs is appropriate for DEP.

CTA supports programs and policies focused on increasing recycling of packaging material by the consumer such as Pay-As-You-Throw programs and lists of mandated recyclables; increasing access to recycling; and supporting public education campaigns to reduce contamination, provided that the policy also has support from the jurisdiction and the infrastructure to execute the policy. CTA opposes mandates that would stifle packaging innovation; impact the safe delivery of products in a cost-effective manner; and/or raise costs for consumers.

- **Electronic Waste** [Section V(A)]: CTA requests that the Maine DEP think about restructuring the following sentence in a way that captures more fully the various factors impacting the collection rates for electronics under the EPR program.

[1] The Final Report of the Connecticut Task Force to Study Methods for Reducing Consumer Packaging that Generates Solid Waste can be found under the "Final Report" section of the "Meetings" portion of the Connecticut General Assembly website at https://www.cga.ct.gov/env/taskforce.asp?TF=20170216_Task%20Force%20to%20Study%20Methods%20for%20Reducing%20Consumer%20Packaging%20that%20Generates%20Solid%20Waste. Additional meeting documents including presentations, written comments and meeting notes can also be found under the "Meetings" portion.

- Original: "Overall, e-waste collection continues to level off, likely due to light-weighting in the electronics industry".
- Revised Language Proposal: "Overall, e-waste collection continues to level off, likely due to the success of the program in removing older, heavier electronics from the recycling stream and increased material efficiencies historically resulting in lighter weight electronic devices".

Conclusion

CTA appreciates this opportunity to provide the above comments to the Maine DEP. CTA and its members strongly support responsible management of electronics and associated packaging in Maine in ways that are both effective and efficient. If you have any questions regarding these comments, please do not hesitate to contact me.

Sincerely,

Katie Reilly
Senior Manager, Environmental and Sustainability Policy
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cc: Paula Clark, Director, Division of Materials Management
Carole Cifrino, Supervisor, Recycling Programs

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February 14, 2019

Paula Clark
Director, Materials Management Division
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17 State House Station
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Comments on the Maine Department of Environmental Protection's Annual Product Stewardship to the Legislature

Dear Ms. Clark and Ms.Cifrino,

Thank you for the opportunity to submit comments on the Department of Environmental Protection's January 2019 Annual Product Stewardship Report to the Maine Legislature. The Natural Resources Council of Maine (NRCM) is a strong advocate for policies that help to create a more circular materials economy through product stewardship and extended-producer responsibility laws. We believe that businesses, governments, and consumers should work together to innovate and design waste out of the system so that we can sustain our resources and reduce our cumulative impact on our environment. It is with nearly 20 years of knowledge and experience relevant to the product stewardship laws and programs referred to in this report that we submit these comments.

Highlighting the Importance of Product Stewardship:

NRCM believes that the success and expansion of our extended-producer responsibility laws depend upon the extent to which the Legislature and the public embrace the concept of product stewardship. Waste and litter management has historically been a public sector problem and taxpayer expense, although the public has had essentially no choice over what materials are thrust upon them to deal with at the end of a product's useful life. Producers of waste are often reluctant to take responsibility for the design and collection systems for their products, and instead lay blame on the consumer by saying they are "meeting consumer demand." Then they leave the public sector to clean up the mess created by those products. The theory behind product stewardship is that, ideally, there would be more shared responsibility between everyone involved in a products lifecycle. This includes a higher level of forethought and planning between design, use, and collection of materials so that we can prevent more valuable materials from being wasted or polluting our environment, which benefits everyone.

To do this, we need to take a more preventative approach to our waste issues by looking up the chain at product and packaging design, and then proactively engaging producers to institute sustainably funded collection systems that can internalize all costs associated with the recovery of waste materials. Without this, we will always have piece-meal, inefficient waste management

programs, funded by taxpayers, and our environment and future generations will continue taking the brunt of the damage. Maine has been a leader in the U.S. in adopting product stewardship programs; our policies have served as blueprints for other states. NRCM is very supportive of adding many more product categories to our suite of laws. We are encouraged by the 2019 Annual Product Stewardship Report because of the thoughtful, forward-thinking approach and recommendations for the expansion of our policies. We have a few specific thoughts to consider below.

Recommendations for Changes to Existing EPR Laws

For the most part, we support the each of the proposed statutory changes for the laws regarding the framework of new product stewardship programs, mercury lamps, consumer batteries, beverage containers, and cell phones. We encourage the committee to move forward with reporting out a bill for each of these proposals in Appendices A through E, though we have a few points to consider:

A. Framework law: The changes proposed are based on experience with implementing existing programs and if adopted would make new programs more effective. NRCM believes that each of our existing programs should also be updated to adhere to the framework law, as proposed.
B. Mercury lamps: Referenced above, this is an example of a policy that should be changed to reflect the proposed changes to the framework law. This has been an underperforming program for years, primarily because there is a disincentive for the producers of mercury lamps to expand their outreach and encourage people to recycle. There is also a lack of a mechanism for DEP to request and require changes that would improve effectiveness.
C. Consumer batteries: Consumer batteries are a big problem in our waste stream because they pose a risk to human health and the environment if they are not managed properly. Further, the Call2Recycle rechargeable battery program is experiencing problems because non-rechargeable batteries are ending up in the bins, but the producers who made them aren't part of the program. If the Legislature only takes one proposal forward from this report, then expanding the rechargeable battery law to include all consumer batteries should be it. Maine consumers and municipalities *need* a solution for recycling all consumer batteries, and this expansion would also solve the problem of "free riders" in the existing program. Since this policy language has already been vetted in the Legislature before, it is a strong proposal that is ready for action. We strongly encourage the Legislature to report out a bill with the language from Appendix C.
D. Container Redemption: The 2018 OPEGA review of the "bottle bill" brought attention to some of the real *or* perceived inefficiencies in the program. We urge the Legislature to proceed with any changes with caution. Overall, the existing program is very effective and is working to recover the vast majority of beverage containers for recycling. This provides jobs and a source of clean recycled commodities. It also reduces litter, provides charities with a source of funds, and takes the burden of managing the containers away from municipalities and taxpayers. NRCM believes that there should be 1) better data and reporting so that we may be more certain about the collection rate—coupled with an automatic increase in deposit amount should collection targets not be reached, 2) consideration given to adding more containers into the redemption model, 3) better ways

to respond to issues of non-compliance, and 4) review of ways to streamline the commingling process based on input from the redemption center operators.

E. Cell Phones: NRCM supports DEP's recommendation to repeal the reporting requirement by cell phone companies, since it does not provide useful data.

Candidate Products for New EPR Programs

We commend DEP for their thoughtful and forward-looking approach with the consideration of future product stewardship programs for packaging, pharmaceuticals, mattresses, carpets, and solar panels. Here are some specific thoughts on those proposals:

A. Packaging: DEP did a remarkable job making the case for the consideration of packaging materials as a potential candidate for an extended-producer responsibility program. This is an extremely timely product category since it makes up 30-40% of the total MSW stream, and many of the municipal programs that manage these materials are currently facing steep increases in costs of recycling and are either abandoning or scaling back their programs. We appreciate that the DEP took the effort to estimate the costs to municipalities and taxpayers for managing packaging waste at an astounding $16-$17.5 million each year. This type of policy is critical to moving forward with more sustainable and resilient recycling programs, as is shown in more than 40 jurisdictions throughout the world. We urge the DEP and the Legislature to move forward with urgency when developing policy language that would establish a new EPR program for packaging in Maine, and a good place to start will be to support a resolve to do just that this session.

B. Pharmaceuticals: Since 2012, five states have established producer-funded drug take-back programs: MA, VT, WA, NY, and CA. Twenty-three U.S. cities and counties have done so, too. Managing these programs costs manufacturers only pennies on a prescription, and does not increase medication cost to consumers. Benefits of this program would include decreased risk of accidental poisoning and drug overdoses by preventing unused medications, like opioids, from accumulating in homes and getting into the wrong hands; establishing an environmentally safe alternative to landfilling or flushing of unwanted drugs; relief for Maine communities, police stations, and others from the burden of organizing and staffing sporadic collection events for unused drugs, saving time and taxpayer money; and creation of a standard way that Maine people can dispose of unwanted drugs, so they know what disposal options are available throughout the year. We are pleased that DEP has signaled support for this policy, and we hope that the Legislature will pass a bill to establish this program in Maine this session.

C. Mattresses: We agree with DEP's assessment on why mattresses are an ideal product category, and also with the assessment of why establishing a program in Maine could be tricky. Unlike CT, RI, and CA, where mattress take-back programs are in place and successful, our state has more pronounced geographic constraints, low population density, and no facilities to process the deconstruction of mattresses. We concur with DEP that if we were to pursue a program in Maine, that at least some cost-internalization is necessary so that the per-unit fee does not overburden the consumer. However, we do urge DEP to consider establishing a smaller unit-fee paid at the point of sale that is used to help municipalities manage mattresses, similar to a bill that was considered by the previous Legislature.

D. Carpet: Like mattresses, this is an ideal product category but Maine has unique limiting factors dealing with this bulky material. NRCM agrees with DEP that funding a program only through a user-fee would be overly burdensome on the consumer, and doing so would not incentivize a redesign of carpet to be more readily recyclable. We hope that over the next couple of years there will be more discussions and consideration given to how we can establish a carpet take-back program that makes sense for Maine.
E. Solar panels: As the use of solar panels to create renewable, clean energy continues to rise, the disposal of older panels will begin to become more of an issue for municipalities to deal with. We like that DEP is forward thinking in its approach so that cost of collection can be anticipated and internalized now, rather than later. However, we are concerned that with lack of similar take-back programs for other forms of energy production such as oil tanks, this would create a disadvantage for companies providing our communities with a cleaner, more sustainable form of energy. We look forward to working with the DEP in the future to establish a fair product stewardship program for solar panels.

Implementation Status for Maine's Other EPR Programs

Maine's other programs for electronic waste, mercury-containing auto switches and thermostats, and architectural paint are performing satisfactorily and any potential changes we may like to see to these programs fall low on the priority list proposals in this report. DEP does mention the plastic bag recycling law that requires retailers that use plastic bags to have a receptacle for recycling, but they do not have a recommended change. NRCM believes that a statutory change to this law is indeed needed since, as a result of initiatives led by concerned citizens in communities throughout Maine, many retailers are no longer distributing plastic bags at check-out, but they are still selling products wrapped in plastic film. Consumers rely on these collection bins for recycling all film plastic, not just check-out bags. We urge the Legislature to amend the plastic bag law (Title 38§1605) so that it would require retailers that sell or provide any film plastic to continue to provide the recycling receptacles.

Overall, this report was very well done and encouraging. We urge the Legislature to place a high priority on moving forward with an expansion of the consumer battery recycling program and moving forward with an extended-producer responsibility program for packaging. Thank you for the opportunity to provide these comments. We request that these comments be submitted to the Legislature with the 2019 report.

Sincerely,

Sarah Lakeman
Sustainable Maine Project Director
Natural Resources Council of Maine

February 14, 2019

Mr. Mike Karagiannes
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333

Re: Maine Department of Environmental Protection Annual Product Stewardship Report 2019

Dear Mr. Karagiannes:

As a follow up to our meeting with DEP staff on February 6th, PRBA – The Rechargeable Battery Association submits these supplemental comments on the DEP's Annual Product Stewardship Report (2019). Our comments below focus primarily on the DEP's recommendation that the existing battery collection and recycling law for nickel cadmium (NiCd) and small sealed lead acid (SSLA) batteries be repealed and replaced with an EPR law covering all consumer batteries. For the reasons we noted during our February 6th meeting with DEP staff and as explained in more detail below, we do not believe this is the correct approach for a consumer battery EPR program in Maine.

INTRODUCTION

PRBA was formed in 1991 to respond to the growing need for workable NiCd and SSLA battery collection and recycling programs in the United States. To that end, PRBA members established pilot battery recycling programs in several states. Based on the success of these pilot programs, PRBA supported establishment of a not-for-profit public education and battery recycling program to be implemented nationally. That program is now known as the Call2Recycle® program. Attached on page 5 is a Call2Recycle summary of the batteries collected in Maine in 2018. In fact, Maine was ranked by Call2Recycle as the 12th best state in terms of battery collection based on weight of batteries collected as a function of state population. See data on right.

In the years since PRBA was formed, lithium ion batteries have replaced NiCd and SSLA batteries in most consumer applications. Notably, these lithium ion batteries do not contain the potentially-hazardous heavy metals used in predecessor products. The existing Maine consumer

battery law was, of course, designed to address environmental concerns with those metals. (Similarly, although PRBA does not focus on non-rechargeable (single use) consumer battery issues, it merits note that the mercury that historically resulted in environmental concerns with those products has now been removed from them.)

PRBA members currently manufacture approximately 65% of the rechargeable lithium ion battery cells produced in the world today. Our members also include leading manufacturers of consumer, medical, and defense products that are powered by those battery cells, battery recyclers, retailers, and large distributors of lithium batteries and equipment powered by them. Virtually all of our members are "stewards" with the Call2Recycle® program and support battery product stewardship programs in the U.S. and Canada.

CONSUMER BATTERIES IN THE WASTE STREAM TODAY

Rechargeable consumer batteries constitute a miniscule contribution to the content of Maine's waste stream: the 2011 Maine Residential Waste Characterization Study (the most recent study available), found that all types of consumer batteries – both rechargeable and non-rechargeable, taken together – made up only 0.23% of the state's overall waste stream.

As to rechargeable batteries, this low volume reflects the fact that most rechargeable batteries reach consumers as components of products, and typically last as long or longer than the products' useful life. This is a very different situation than existed when Maine enacted its existing NiCd and SSLA battery statute, when easily removable batteries were common. It also is notable that many of those products (including their batteries) are collected for recycling under Maine's electronic waste and used cell phone statutes.

Moreover, those used rechargeable batteries that are available for disposal already are collected, without the need for further legislative mandate, under the Call2Recycle® program and similar programs operating in Maine, municipal collection sites, facility-sponsored programs (*e.g.*, hospitals), and by e-waste recyclers.

For these reasons, if the DEP's concern is with reducing large volumes of waste entering landfills and preserving landfill space, products that account for significant volumes of waste (*e.g.*, carpet and mattresses) would be a logical first step for new product stewardship initiatives to help achieve Maine's waste reduction and recycling goals. Similarly, if the concern is to reduce the volume of hazardous constituents that reach landfills or incinerators, the focus need not be on consumer batteries.

LITHIUM ION BATTTERIES AND PRODUCT STEWARDSHIP LEGISLATION

Paragraph C on page 8 of the DEP report addresses a number of issues related to lithium ion batteries that warrant further comment to put them into proper context.

First, the safety issues associated with the proper handling, transport, collection, and storage of lithium ion batteries have been well documented by various federal agencies and national organizations. There are regulations and guidelines published by the U.S. Department of Transportation, Consumer Product Safety Commission, Occupational Safety & Health

Administration, and National Fire Protection Association, just to name a few, that adequately address these safety issues. These regulations and guidelines are frequently updated to account for new developments involving lithium ion batteries. We therefore do not believe a consumer battery EPR bill is the right vehicle to address these safety issues.

Second, it is generally recognized that 85 -90% of lithium ion consumer batteries enter the marketplace installed in products like cellular phones, notebooks, tablets, e-readers, and other portable electronic products. According to the DEP, from January 2006 through December 2017, Maine residents recycled more than 97 million pounds of electronics.[1] Many of these products contain lithium ion batteries that are removed by e-waste processors and recycled or refurbished for reuse in similar products. Moreover, the refurbishing of used lithium ion batteries for reuse (often referred to as "secondary use") is a relatively new phenomenon that is not accounted for when considering the collection and recycling of these batteries. Furthermore, even though Maine's current rechargeable battery recycling law does not cover the now-predominant power source in consumer products, lithium ion batteries, these batteries are already collected in large volumes through the Call2Recycle® program, e-waste processors, and other battery collection programs in the state.

Third, the DEP report contains in Appendix C a draft of potential consumer battery product stewardship legislation. PRBA did support such legislation in 2016, but we no longer do. In significant part, that is the result of the debate over Senator Saviello's 2016 proposed legislation and similar bills in other states, which demonstrated the strength of political influences that would preclude the adoption of any bill that treated all suppliers equitably. We thus must strongly urge DEP to reconsider this approach embodied in the draft bill included in its report.

To further explain our concern: the legislation in Appendix C, if introduced as a legislative proposal, will garner a significant amount of industry opposition as it did in 2016. That opposition always results in "carve outs" during the legislative process that are equivalent to the "free rider" problem Call2Recycle currently struggles with under their existing program. When these types of carve outs are granted (as was the case in Vermont in 2016 when their primary battery (single use) recycling law passed), battery suppliers and a subset of product suppliers ultimately incur all the costs of collecting and recycling even batteries they did not place on the market – which constitute the vast majority of the used rechargeable batteries collected. This is not fair or equitable.

In short, at least as to batteries, the concerns reflected in the DEP report are far more complex and merit much greater consideration before any specific legislative action is considered for introduction. Instead of moving immediately to legislation, we strongly recommend convening a panel of experts from the DEP, battery industry and other interested parties to brief the ENR committee on the history and experience of Maine and other states with battery recycling and e-waste laws, and the status of battery collection and recycling in the U.S. This might be accompanied by the preparation of a more complete study of consumer rechargeable battery recycling, and subjecting it to public comment before finalization, in order to provide all

[1] See https://www.maine.gov/dep/waste/ewaste/#la

interested parties an opportunity to weigh in on the issues over the course of the year. The ENR Committee could then review the study and decide on the appropriate actions, legislative or otherwise, to pursue.

* * * *

We appreciate DEP's consideration of our comments and look forward to working with the agency and the legislature on these important issues to our members. Please contact me at 202.719.4109 or gkerchner@wileyrein.com with any questions regarding these issues.

Sincerely,

George A. Kerchner
Executive Director

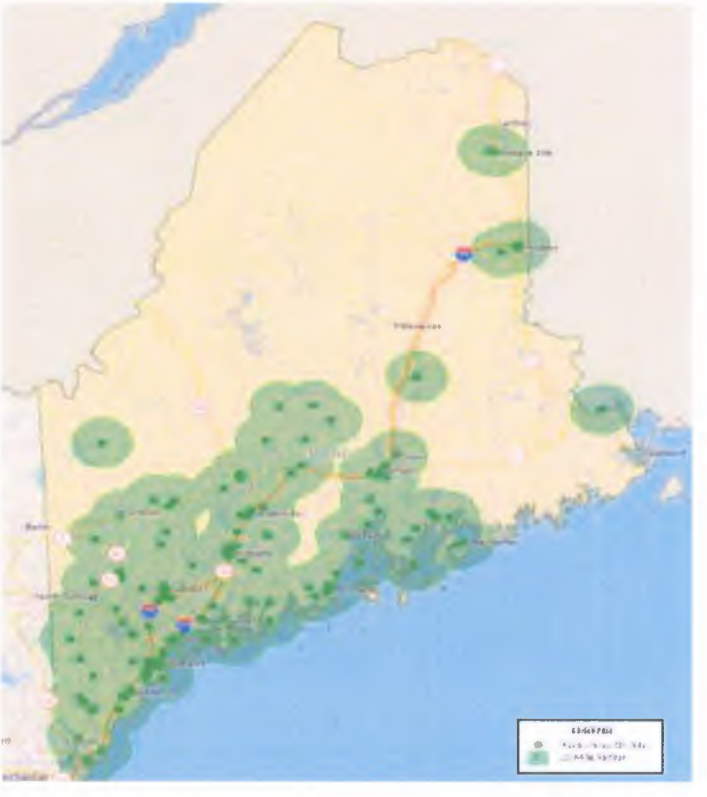
call2recycle®
Leading the charge for recycling.™

Consumer Battery Collections
Maine - 2018

In 2018, the Call2Recycle® program collected over 31,000 pounds of consumer batteries, single use and rechargeable, in Maine from 182 collection sites. Nearly 50% of the batteries collected were from public agency sites (i.e., municipal transfer stations). Below please find the summary of Call2Recycle's battery collections in the state.

2018 Battery Collections in Maine by Collection Site Type		
Collection Site Type	**Pounds of Batteries Recycled**	**# of Participating Sites**
Retailers / Wholesalers	14,174	83
Municipal / Public Agency	14,752	85
Other	2,264	14
Totals	**31,190**	**182**

All sixteen Maine counties have at least two collections sites generating batteries through the Call2Recycle® program. Currently, 85% of the state's population lives within 10 miles of a Call2Recycle collection site. Below please find a map representing Call2Recycle's collections sites throughout the state.



Maine Grocers &
Food Producers
Association
PO Box 5234
Augusta, ME 04332
207.622.4461
info@mgfpa.org

February 14, 2019

Mr. Mike Karagiannes
Maine Department of Environmental Protection
17 State House Station
Augusta, ME 04333-0017

Re: Comments on 2019 Maine Product Stewardship Report

Dear Mr. Karagiannes:

I am submitting comments on the 2019 Maine Product Stewardship Report on behalf of the Maine Grocers & Food Producers Association, a business trade association representing 250 members of Maine's food community; main street businesses including independently owned and operated grocery stores and supermarkets, and food and beverage industry partners.

The report addresses policy changes to minimize the negative impacts of products and packaging throughout their life-cycle. We will address the Framework law as enacted in 2009 and also a selection of the laws related to consumer products and the grocer and food producer industry.

Framework Law (38 M.R.S. Chapter 18)

- Due to the large geographical size of the state, requiring collection sites within 15 miles of 90% of Maine's residents would be troublesome for rural areas leaving some without an adequate place to recycle. The varying size and types of materials require individual recycling site implementation.
- We would like to see further clarity on the staffed employee responsibilities required to oversee each of the stewardship programs. If one-full time employee is currently in place for the PaintCare program (ME&VT), we have concerns that a more complex program may require additional time for full circle implementation and vice versa for established programs.
- To generalize annual fees across the wide, breadth of the program is concerning. We would like to see a formalized breakout of costs to ensure fair budgeting expectations for the producers absorbing the program implementation.
- The program performance goals are very specific in awareness and recycling rates. Is there history from other programs or studies to ensure these objectives can be met? Can they be applied across all products?

We recognize the Department's interest in making these changes to the Framework Law so that high collection rates may be achieved along with data to support the initiatives becomes available. Prior to implementation, we would ask that you conduct additional research for feedback from all parties specifically speaking to changes in the Framework Law to ensure all the proposed changes are attainable. Others involved in the day to day can help provide additional insight on what is working and how to address areas for needed improvements.

Beverage Containers (38 M.R.S. Chapter 33)

Our industry recognizes and supports efforts to help refine the Bottle Bill to make the process easier and more viable for our beverage manufacturers/bottlers as well as retailers selling and our partners in the redemption process.

We are pleased that there is a 75-87% recycling rate for bottles which in comparison to the national avg. (34%) is quite high. We are hesitant to make drastic changes to the program that would negatively affect any of the participating players causing additional costs, present challenges, or have unintended consequences to the success of the program.

- Data reporting requirements: we express hesitation for the additional administrative costs of reporting the number of non-refillable beverage containers sold and the number of non-refillable beverage containers returned by redemption value. It may also be a challenge for larger corporations to implement these changes to comply with state regulations/reporting requirements in the global market of obligations.
- Supportive of the removal of the provisions of the law which indicate redemption centers must have written agreements to provide redemptions services for dealers and only accept containers of the kind, size brand sold by those dealers. This eliminates administration burden from redemption centers.
- Supportive of the elimination of redemption responsibility for retailers with less than 5,000 sq ft of retail space.
- Oppose redemption-centers or dealers with 5,000 sq ft or retail space of more without an agreement (with a stand alone redemption center within 1 mile) be required to redeem all beverage containers within the program. A one-mile radius, especially in rural Maine, is too restrictive. We would propose a wider acceptable radius for a partnering redemption center. It may also be out of certain store's business plans to administer a redemption program within the storefront.
- Title 22 defines a Locally owned grocery store as "Locally owned grocery store" means a grocery store at least 51% of which is owned by one or more residents of the State and that has a gross floor area of 25,000 square feet or less. Possibly the Department wants to evaluate the sq. ft threshold to exclude slightly larger store fronts from the redemption responsibilities.
- We recognize the efficiencies that may come with a "catch all" commingling group for redemption centers, we can support the effort of sorting by like materials to minimize the sorting labor. However, the "catch all" commingling group would be based on manufacturers being truthful about their portion/share of sales within the container weights. We would like to see a checks and balance system to ensure equality amongst participants.
- We are not supportive of any changes in legislation that would require additional remittance of unclaimed deposits to the State as these dollars are used within the IoDs budget to remain viable.
- We are supportive of compliance and enforcement procedures that ensure fairness amongst redemption centers and pick-up agents/IoDs. If manufacturers will be held responsible for the program than redemption centers must be accountable for their part of the process and honesty in full bag redemptions.
- While not a substantial increase, a $50 increase for a redemption center license will add a bit more of an investment into the interest in operating the redemption center.

We look forward to working with the ENR Committee this session addressing the multitude of bills submitted this session addressing the bottle bill.

Batteries (38 M.R.S. § 2165)

Grocers commonly sell batteries as a part of their common, household item product line.

- A January 1, 2020 implementation date for a battery manufacturer to change their labeling may be too short. Most batteries are manufactured by large corporations with big distribution networks. Less than a year may be difficult to comply. What would also happen to those batteries still on the shelves? Would they need to be

credited back, returned, recycled without even being used? What leeway would there be for remaining inventory?

- There should be some concern given to manufacturers whom may opt not to comply and decide to stop offering their product in Maine.
- Submission Plan, "the plan must allow retailers, wholesalers, municipalities," etc to "voluntarily serve as a collection location." We are supportive of a voluntarily option but not supportive of stricter collection site requirements at the point of retail.

Plastic Bags (38 M.R.S. § 1605)

No specific amendments were proposed to address plastic bags within the Stewardship Report. We look forward to working with the ENR Committee this session on the three proposed bill titles addressing plastic bags.

Candidate products:
Packaging

As noted within the report the market for packaging is vulnerability and unpredictable. We are supportive of the industry's efforts to ensure their packaging is developed in a thoughtful and environmentally friendly manner. The report states there is a lack of data on packaging generation and municipal recycling and disposal costs. The report references somewhat outdated information from 2011 and references statistics from Europe and Canada which may not be a fair comparison to the state's actual numbers. We recognize the interest to learn more and would be supportive of further studies to ensure suggestions for manufacturers would be feasible. We would look to learn more about a proposed division of responsibilities between packaging producers and municipalities.

Overall:

As with any program in which the producers and manufacturers are responsible for recycling programs, the likelihood of increased product costs will occur and our Maine residents, the customers, will inevitably incur the costs of the recycling programs. We express an overall concern for any programs that may cause an imbalance for the manufacture to comply while still offering quality, reasonably priced products.

Thank you for the opportunity to provide testimony.

Christine Cummings

Christine Cummings
Executive Director
christine@mgfpa.org
207-622-4461

Thermostat Recycling® CORPORATION

500 Office Center Drive – Suite 400 | Fort Washington, PA 19034 | thermostat-recycle.org

Via Email

February 14th, 2019

Mike Karagiannes
Maine Department of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Re: Thermostat Recycling Corporation's (TRC) Response to MEDEP 2019 Annual Product Stewardship Report to the Joint Standing Committee on the Environment and Natural Resources

Dear Mr. Karagiannes:

Three prominent manufacturers of thermostats – Honeywell, White-Rodgers, and General Electric – voluntarily established the nonprofit, Thermostat Recycling Corporation (TRC) in 1998 to facilitate the proper management of mercury thermostats at end-of-life. TRC now has 30 corporate members and is the only U.S. based national program dedicated to recycling mercury thermostats. We have recycled more than 2.4 million mercury thermostats nationwide, thereby diverting more than 11 tons of mercury from the solid waste stream. In Maine, the program has recycled tens of thousands of these units.

TRC welcomes the opportunity to comment on the Maine Department of Environmental Protection's January 2019 Annual Product Stewardship Report (Product Stewardship Report). Our comments circle around the Department's proposed changes to 38 M.R.S § 1776, *An Act to Improve Maine's Product Stewardship Law*, and are presented below.

THE ROLE OF MANUFACTURERS AS PART OF A THREE-LEGGED STOOL

Mercury thermostats are regulated under 38 M.R.S. § 1665-B, Maine's *Mercury-added Thermostats* law. The law requires that manufacturers who have sold mercury-added thermostats into the state pay for their collection and disposal and provide a financial incentive with a minimum value of $5 for the return of each mercury-added thermostat to an established recycling collection point. This legislation has been in place since 2006. We have concerns on how the Department characterized manufacturers (a.k.a. producers) as having "*the greatest ability to affect the life-cycle impacts of products*". The Department concedes that others, including distributors, retailers and consumers, also have a role. In our twenty years of operating, we have continually stressed that **other stakeholders (distributors, retailers, or generators of waste) also have an equal, if not more important, role in recovering this material and the manufacturer does not bare sole responsibility**. Yet, there is no mention of these entities (other than the passing reference) and their requirements to promote safe disposal or safely dispose of this material.

In the Department's proposed changes to 38 M.R.S § 1776, the Department suggests placing increased requirements on producers. Such requirements include mandates to achieve a recycling rate of 50% in the third year of a program and an 80% recycling rate within the sixth year. These targets would inequitably place the responsibility for consumer and generator behavior directly on manufacturers. TRC does not support setting recycling rates based on the behavior of others, and TRC does not support a framework where there is no clear mechanism for the Department to regulate and enforce the actions of these actors. The three-legged stool of responsibility crumbles when only manufacturers are responsible for the actions of the other two involved parties (collection networks and generators of waste).

The Department also incorrectly states that "*when manufacturers are responsible for paying for the recycling of collected products, they have a disincentive to collect or to promote the existence or ease of use of a collection system*". This is not the case in TRC's experience. We promote TRC's collection and disposal program to the best of our ability. The Department should acknowledge a diminishing law of returns for increased efforts, and should base any conclusions on a cost-benefit analysis related to program performance. TRC believes the Department should remove this statement.

SPECIFIC CHANGES TO FRAMEWORK PRODUCT STEWARDSHIP LAW

As the Product Stewardship Report has provided, Maine currently has nine laws related to the end-of-life management of specific consumer products that may be considered to be product stewardship laws. The Department stated that, "*Maine's experience in implementing its great variety of EPR laws, it is now apparent the framework law does not include adequate provisions to ensure implementation of effective programs*". Further, the Department states that, "*there are certain elements that contribute to an EPR program achieving high rates of diversion from disposal*" **but the Department does not cite any sources of where this has been the case or studies that support the recommendations listed in the Product Stewardship Report**. We disagree with these characterizations and do not believe they are well supported, as evidenced by the lack of citations in the Product Stewardship Report.

TRC has concerns with the Department's specific recommended changes to the legislation, which include:

1. **A requirement that each program maintain a minimum standard for the producers' or stewardship organization staffing: "a minimum ½-fulltime equivalent (FTE)" with the work product of working to "recruit, train and monitor collection sites".** It has been TRC's experience that more hours of effort and resources do not necessarily equate to more collections. Also, this recommendation leaves no flexibility for other ways to cover extended producer responsibility (EPR) related site collection work, such as outsourcing activities or working with the Department staff. Department staff visit retailers in the state and drive economies of scale when they can ask about other EPR programs such as thermostat, batteries, lamps, or paint while there. The Department is essentially going to burden each collection site with up to 4 times as many visits with representatives of stewardship groups. It is also our experience that Department staff have better and more impactful conversations with collection locations than EPR groups because of the perception of being from the government. Lastly, there is no other precedent for this in other states with EPR programs for good reason, since it is an inefficient use of resources.

2. **Measurable, enforceable goals (e.g., recycling rate, consumer awareness, convenient collection), and defined consequences for non-compliance. The rates will use a description of the methodology and the relevant historic sales data used to develop the rate.** The Department acknowledges anti-trust concerns in the report. Sharing such information such as historic sales data may not be available to provide to the Department or the Department may not be the appropriate clearinghouse. TRC has consistently contended that collection targets do not make good public policy. Goals by themselves do little to encourage other actors to participate and place all of the ownership of the target strictly on the manufacturer.

3. **Using a permanent collection site within 15 miles of 90% of Maine residents within one year of the start of product collections.** TRC has concerns with mandates to place a collection site in a location to simply satisfy an arbitrary geographic requirement. Placing collection locations in a state is more nuanced than choosing something arbitrary such as geography to population or even a location in each county. Population centers should inform where to place collection locations and not geographic distance. By this same logic, Maine should put in place hospitals or schools within 15 miles of 90% of the population. Many current EPR laws define collection locations based on the prior sales channel

they were sold through. It is possible the sales channel is not nearby and cannot possibly satisfy such a prescriptive requirement, particularly in light of sales through online outlets. As we mentioned above, this requirement would put the ownership completely on the EPR program and not on the collection site themselves. Whenever an EPR law defines a collection location with a mandate to collect, there cannot be an accurate way to blanket the entire state if those outlets do not exist in the required regions. Mandating this also stifles innovation by legislating out the possibility of other potential collection mechanisms such as smaller/shippable containers or developing pick-up schemes. Further research and a thorough review of accessibility for Maine's population should be completed before imposing a blanket approach on EPR programs related to geographic distance and percentage within population calculation.

CONCLUSION

TRC would caution the Department from applying a "one-size-fits-all" approach to end-of-life product management. TRC spends significant time with other EPR groups reviewing programmatic elements and the constant theme is that each EPR program is different. These programs do not all share common characteristics and should not be managed in the same fashion.

TRC, as one of the first EPR programs in the nation, remains available to answer questions or clarify components of its collection program with Department staff and specifically these comments. As mentioned above, we applaud the Department's willingness to have EPR groups weigh in on these proposed changes. Please don't hesitate to contact me at your convenience at ryan.kiscaden@thermostat-recycle.org or 267-513-1727.

Sincerely,

Ryan L Kiscaden
Executive Director

CC:

Paula Clark
Carole Cifrino

Mark Ward comments on Annual Product Stewardship Report

I am writing to express my thoughts on the draft of the Annual Product Stewardship Report (compiled by the DEP in January 2019). I have reviewed this report and commend the authors for having compiled an extremely thorough and thoughtful presentation of their findings and recommendations.

I strongly encourage the legislature to consider the recommendations made to modify existing Maine laws to strengthen the state's current Extended Product Responsibility efforts. As the state entity responsible for implementing and overseeing these efforts, the DEP is uniquely positioned to understand what is and is not working in the laws as they are currently written. Because the recommendations are compiled as separate appendices, the legislature can choose to adopt all of the proposed changes or to select those that it deems most pressing (making sure, of course, that if it were to adopt a piecemeal approach that it consider the implications on the whole of Title 38, Chapter 18 Product Stewardship). Among the recommendations that I see as being especially important are the proposals to: 1) strengthen the Framework Law, 2) make the mercury lamp law more consistent with the framework, and 3) make changes to the consumer batteries section to include lithium and lithium-ion batteries to minimize the risk of fires at Materials Recovery Facilities. I also support the recommended changes to the bottle bill (38 M.R.S., Chapter 33) most notably the establishment of the "catch-all" commingling provision for containers of the same material type.

In addition, I appreciate the DEP efforts to identify candidate products for new EPR programs. I am especially enthusiastic about the potential to enact a new EPR program for packaging. The analysis provided suggests that a packaging program in Maine would best be designed through a shared responsibility model with a carefully crafted set of municipal incentives.

Mark Ward, 28 Poor Farm Road, Bristol, ME 04539

THE CARPET AND RUG INSTITUTE

February 12, 2019 VIA: E-Mail

Mr. Mike Karagiannes
Maine DEP
17 State House Station
Augusta, ME 04333-0017

Comments Re: Implementing Product Stewardship in Maine, 2019

The Carpet and Rug Institute, representing carpet manufacturers who produce over 90% of the carpet made in the United States, appreciates the opportunity to comment on Maine's 2019 Product Stewardship Annual Report and the state's consideration of EPR legislation.

The carpet manufacturing industry is working independently, and together with others, to reduce the amount of carpet going to the landfill each year. More than 15 years ago, the carpet industry entered into a voluntary agreement with many states, including Maine, the EPA and NGOs to find solutions that would facilitate the diversion of carpet from landfills.

More recently, over the past two years, CRI has collaborated with Maine's Department of Environmental Protection (DEP), the Maine Retail Association and the Carpet Americas Recovery Effort (CARE) to develop voluntary pilot programs aimed at finding solutions for carpet disposal in the state. Based on our June 2018 meeting with DEP, we look forward to continuing to pursue a number of ideas that would increase diversion to energy in Maine without a new mandate for EPR. We are particularly interested in the potential to connect installers with organizations that utlilize carpets in energy recovery. Since 2002, our industry has invested in excess of $300M on this effort and we have had continued to see growth in our diversion numbers.

The carpet and rug industry is committed, above all else, to serving our customers, our communities and the millions of people who benefit from our products every day. Our industry has long been committed to creating sustainable and beautiful products for people in their homes, schools and commercial spaces, and we continue to innovate to minimize the environmental impact of carpet products and manufacturing in Maine and throughout the U.S.

The carpet industry takes a holistic approach to sustainability that is responsible, proactive, and seeks to balance to various stakeholder needs and interests. Carpet manufacturers focus on reducing water and energy use, strive to create zero waste, integrate renewable chemistry into the manufacturing process, incorporate recycled content in new carpet products, and recycle

carpet to reduce the amount of discarded carpet that goes into landfills. In fact, over the past 17 years, carpet manufacturers have invested in creating a carpet recycling industry that has diverted more than 5 billion pounds of carpet from landfills (2017 CARE Annual Report).
In recent years, the carpet industry's investments in innovation and design have focused on ensuring that the products we are manufacturing today are constructed to facilitate recycling and recovery. Like many other industries, that transition is still under way. Carpet that is reaching its end of life today remains highly complex and challenging. We are continuing to invest both in technology and to further develop a market that will make even broader adoption of carpet recycling possible.

The public is best served by our continuing to invest in solutions, rather than unnecessary, distracting and expensive additional regulation that stands to do more harm than good – including putting tens of thousands of jobs at risk. It should be noted that alternative, non-legislative options in South Carolina, for example, have led to steady job growth while diverting carpet from landfill.

California, which has a higher population density and established infrastructure, enacted EPR legislation in 2010 that in many ways remains a work in progress. In addition to the very difficult chemistry and market realities faced in every state, Maine faces more challenging infrastructure and density challenge.

Carpet is an important US-based manufacturing industry, with more than 98 percent of carpet used in the United States manufactured in our country. Carpet manufacturing is one of the last major industries primarily based in the United States. More than half a million American jobs depend on the U.S. carpet manufacturing industry, in manufacturing, transportation, installation, retail sales, recycling and more. (Pending results of member economic impact survey.)

We encourage the state of Maine to work with us on existing voluntary efforts and incentivize market-based solutions. The carpet industry is committed to continue seeking solutions and has a plan to go to the next step. Legislation will only hinder our progress, cost jobs in the US, and, will not lead to the best environmental solutions to the challenges we face.

Sincerely,

Jennifer L. Stowe

Jennifer L. Stowe
Vice President, Government Relations

Joe Biden Pledges to Make Solar Panels More Environmentally Toxic

Guest essay by Eric Worrall

h/t ResourceGuy; If you thought Arsenic doped Silicon or Gallium Arsenide on your roof was bad, how about solar cells made of organic Lead compounds, or Cadmium Telluride? Biden's quest for cheaper solar is exploring some truly terrifying photovoltaic innovations.

U.S. pledges to slash solar energy costs by 60% in a decade

Fri March 26, 2021

March 25 (Reuters) – The Biden administration on Thursday set a goal to cut the cost of solar energy by 60% over the next decade as part of an ambitious plan to decarbonize the United States' power sector by 2035.

The U.S. Department of Energy said the goal accelerates its previous utility-scale solar cost target by five years. For the U.S. power grid to run entirely on clean energy within 15 years, a key pillar of President Joe Biden's climate change agenda, solar energy will need to be installed as much as five times faster than it is today, DOE said.

*To get there, the agency committed to spending $128 million on technologies including **perovskite solar cells**, which are regarded as a promising cheap alternative to the silicon cells that dominate the market. Funds will also support research on **cadmium telluride** and concentrating solar technologies.*

…

Read more: https://finance.yahoo.com/news/u-pledges-slash-solar-energy-163000668.html

Rechargeable batteries used to contain **Cadmium**, it was discontinued because Cadmium is horribly toxic. less than half a gram of Cadmium in your system will really mess up your day. Symptoms include cancer, "Cadmium Blues" (persistent flu like symptoms), renal failure, softening of the bones, emphysema and respiratory damage. Can you imagine having several pounds of Cadmium on your roof? What if your neighbour's solar powered rooftop catches fire?

Tellurium is unpleasant, though it does not seem as toxic as Cadmium. At least people seem to recover from Tellurium poisoning. *Clinical features of acute tellurium toxicity include a metallic taste, nausea, vomiting, blackened oral mucosa and skin, and corrosive gastrointestinal tract injury from acidic solvents. … Our patients exhibited many of the characteristic features of tellurium toxicity, namely, vomiting, garlic odor of the breath, blackened oral mucosa, and benign clinical course. –*
source https://pediatrics.aappublications.org/content/116/2/e319

Cadmium Telluride solar cells – double the fun, if a house fire spreads the panel material around your neighbourhood. I'm not eating pie made from that Apple tree.

The **Perovskite solar cells** are if anything are potentially even worse. From Wikipedia :- *A **perovskite solar cell (PSC)** is a type of solar cell which includes a perovskite-structured compound, most commonly a hybrid **organic**-inorganic lead or tin halide-based material, as the light-harvesting active layer. Perovskite materials, such as methylammonium lead halides and all-inorganic caesium lead halide, are cheap to produce and simple to manufacture.*

Organic lead is probably the worst form of lead exposure, because it is fat soluble. Organic lead is neatly packaged for optimum absorption into your body and brain tissue. You don't even have to ingest or breath it in – organic lead can pass right through your skin, all it has to do is touch you.

From Wikipedia;

*… Lead poisoning can cause a variety of symptoms and signs which vary depending on the individual and the duration of lead exposure. **Symptoms are nonspecific and may be subtle**, and someone with elevated lead levels may have no symptoms. Symptoms usually develop over weeks to months as lead builds up in the body during a chronic exposure, but acute symptoms from brief, intense exposures also occur. Symptoms from exposure to **organic lead**, which is probably **more toxic than inorganic lead** due to its lipid solubility, occur rapidly. Poisoning by organic lead compounds has symptoms **predominantly in the central nervous system**, such as insomnia, delirium, cognitive deficits, tremor, hallucinations, and convulsions.*

Symptoms may be different in adults and children; the main symptoms in adults are headache, abdominal pain, memory loss, kidney failure, male reproductive problems, and weakness, pain, or tingling in the extremities …

Read more: https://en.wikipedia.org/wiki/Lead_poisoning

There is a reason governments are moving away from allowing the addition of small amounts of organic lead to gasoline.

The tin based Perovskite is probably the least offensive of the chemicals listed. Metallic tin is commonly used as a plating on food tins, though you can still suffer acute toxicity from ingestion of soluble tin salts, say if there was a problem with processing the food. But even if they go for the tin based Perovskite, after they finish tinkering with the formula, who knows what the final recipe will contain.

Re-Evaluating Solar Photovoltaic Power
Considering the ecological impacts we aim to reduce

by Katie Singer

Even when reality is harsh, I prefer it. I'd rather engineers say that my water could be off for three hours than tell me that replacing the valve will take one hour. I prefer knowing whether or not tomatoes come from genetically modified seed. If dyeing denim wreaks ecological hazards, I'd rather not keep ignorant.

The illusion that we're doing good when we're actually causing harm is not constructive. With reality, discovering true solutions becomes possible.

As extreme weather events (caused, at least in part, by fossil fuels' greenhouse gas [GHG] emissions) challenge electrical infrastructures, we need due diligent evaluations that help us adapt to increasingly unpredictable situations—and drastically reduce greenhouse gas emissions and ecological damage. I have a hard time imagining a future without electricity, refrigerators, stoves, washing machines, phones and vehicles. I also know that producing and disposing of manufactured goods ravages the Earth.

Internationally, governments are investing in solar photovoltaics (PVs) because they promise less ecological impacts than other fuel sources. First, I vote for reviewing aspects of solar systems that tend to be overlooked.

Hazards of Solar Photovoltaic Power

1. Manufacturing silicon wafers for solar panels depends on fossil fuels, nuclear and/or hydro power. Neither solar nor wind energy can power a smelter, because interrupted delivery of electricity can cause explosions at the factory. Solar PV panels' silicon wafers are "one of the most highly refined artifacts ever created."[1] Manufacturing silicon wafers starts with mining quartz; pure carbon (i.e. petroleum coke [an oil byproduct] or charcoal from burning trees without oxygen); and harvesting hard, dense wood, then transporting these substances, often internationally, to a smelter that is kept at 3000F (1648C) for years at a time. Typically, smelters are powered by electricity generated by a combination of coal, natural gas, nuclear and hydro power. The first step in refining the quartz produces metallurgical grade silicon. Manufacturing solar-grade silicon (with only one impurity per million) requires several other energy-intensive, greenhouse gas (GHG) and toxic waste-emitting steps. [2] [3] [4]

Coal-fired power plants commonly provide electricity to smelt silicon for solar panels. Photo credit: Petr Štefek

2. Manufacturing silicon wafers generates toxic emissions

In 2016, New York State's Department of Environmental Conservation issued Globe Metallurgical Inc. a permit to release, per year: up to 250 tons of carbon monoxide, 10 tons of formaldehyde, 10 tons of hydrogen chloride, 10 tons of lead, 75,000 tons of oxides of nitrogen, 75,000 tons of particulates, 10 tons of polycyclic aromatic hydrocarbons, 40 tons of sulfur dioxide and up to 7 tons of sulfuric acid mist. To clarify, this is the permittable amount of toxins allowed annually for one metallurgical-grade silicon smelter in New York State. [5] Hazardous emissions generated by silicon manufacturing in China (the world's leading manufacturer of solar PVs) likely has significantly less regulatory limits.

3. PV panels' coating is toxic
PV panels are coated with fluorinated polymers, a kind of Teflon. Teflon films for PV modules contain polytetrafluoroethylene (PTFE) and fluorinated ethylene (FEP). When these chemicals get into drinking water, farming water, food packaging and other common materials, people become exposed. About 97% of Americans have per- and polyfluoroalkyl substances (PFAs) in their blood. These chemicals do not break down in the environment or in the human body, and they can accumulate over time. [6] [7] While the long-term health effects of exposure to PFAs are unknown, studies submitted to the EPA by DuPont (which manufactures them) from 2006 to 2013 show that they caused tumors and reproductive problems in lab animals. Perfluorinated chemicals also increase risk of testicular and kidney cancers, ulcerative colitis (Crohn's disease), thyroid disease, pregnancy-induced hypertension (pre-eclampsia) and elevated cholesterol. How much PTFEs are used in solar panels? How much leaks during routine operation—and when hailstorms (for example) break a panels' glass? How much PTFE leaks from panels discarded in landfills? How little PFA is needed to impact health?

4. Manufacturing solar panels generates toxic waste. In California, between 2007 and the first half of 2011, seventeen of the state's 44 solar-cell manufacturing facilities produced 46.5 million pounds of sludge (semi-solid waste) and contaminated water. California's hazardous waste facilities received about 97 percent of this waste; more than 1.4 million pounds were transported to facilities in nine other states, adding to solar cells' carbon footprint. [8]

5. Solar PV panels can disrupt aquatic insects' reproduction. At least 300 species of aquatic insects (i.e. mayflies, caddis flies, beetles and stoneflies) typically lay their eggs on the surface of water. Birds, frogs and fish rely on these aquatic insects for food. Aquatic insects can mistake solar panels' shiny dark surfaces for water. When they mate on panels, the insects become vulnerable to predators. When they lay their eggs on the panels' surface, their efforts to reproduce fail. Covering panels with stripes of white tape or similar markings significantly reduces insect attraction to panels. Such markings can reduce panels' energy collection by about 1.8 percent. Researchers also recommend not installing solar panels near bodies of water or in the desert, where water is scarce. [9]

Solar PV users may be unaware of their system's ecological impacts. Photo credit: Vivint Solar from Pexels

6. Unless solar PV users have battery backup (unless they're off-grid), utilities are obliged to provide them with on-demand power at night and on cloudy days. Most of a utility's expenses are dedicated not to fuel, but to maintaining infrastructure—substations, power lines, transformers, meters and professional engineers who monitor voltage control and who constantly balance supply of and demand for power. [10] Excess power reserves will increase the frequency of alternating current. When the current's frequency speeds up, a motor's timing can be thrown off. Manufacturing systems and household electronics can have shortened life or fail catastrophically. Inadequate reserves of power can result in outages.

The utility's generator provides a kind of buffer to its power supply and its demands. Rooftop solar systems do not have a buffer.

In California, where grid-dependent rooftop solar has proliferated, utilities sometimes pay nearby states to take their excess power in order to prevent speeding up of their systems' frequency. [11]

Rooftop solar (and wind turbine) systems have not reduced fossil-fuel-powered utilities. In France, from 2002-2019, while electricity consumption remained stable, a strong increase in solar and wind powered energy (over 100 GW) did not reduce the capacity of power plants fueled by coal, gas, nuclear and hydro. [12]

Comparing GHG emissions generated by different fuel sources shows that solar PV is better than gas and coal, but much worse than nuclear and wind power. A solar PV system's use of batteries increases total emissions dramatically. Compared to nuclear or fossil fuel plants, PV has little "energy return on energy Invested." [13]

7. Going off-grid requires batteries, which are toxic. Lead-acid batteries are the least expensive option; they also have a short life and lower depth of discharge (capacity) than other options. Lead is a potent neurotoxin that causes irreparable harm to children's brains. Internationally, because of discarded lead-acid batteries, one in three children have dangerous lead levels in their blood. [14] Lithium-ion batteries have a longer lifespan and capacity compared to lead acid batteries. However, lithium processing takes water from farmers and poisons waterways. [15] Lithium-ion batteries are expensive and toxic when discarded. Saltwater batteries do not contain heavy metals and can be recycled easily. However, they are relatively untested and not currently manufactured.

8. Huge solar arrays require huge battery electric storage systems (BESS). A $150 million battery storage system can provide 100 MW for, at most, one hour and eighteen minutes. This cannot replace large-scale delivery of electricity. Then, since BESS lithium-ion batteries must be kept cool in summer and warm in winter, they need large heating, ventilation, air conditioning (HVAC) systems. (If the Li-ion battery overheats, the results are catastrophic.) Further, like other batteries, they lose their storage capacity over time and must be replaced—resulting in more extraction, energy and water use, and toxic waste. [16]

9. Solar PV systems cannot sufficiently power energy guzzlers like data centers, access networks, smelters, factories or electric vehicle [EV] charging stations. If French drivers shifted entirely to EVs, the country's electricity demands would double. To produce this much electricity with low-carbon emissions, new nuclear plants would be the only option. [17] In 2007, Google boldly aimed to develop renewable energy that would generate electricity more cheaply than coal-fired plants can in order to "stave off catastrophic climate change." Google shut down this initiative in 2011 when their engineers realized that "even if Google and others had led the way toward a wholesale adaptation of renewable energy, that switch would not have resulted in significant reductions of carbon dioxide emissions…. Worldwide, there is no level of investment in renewables that could prevent global warming." [18]

10. Solar arrays impact farming. When we cover land with solar arrays and wind turbines, we lose plants that can feed us and sequester carbon. [19]

11. Solar PV systems' inverters "chop" current and cause "dirty" power, which can impact residents' health. [20]

12. At the end of their usable life, PV panels are hazardous waste. The toxic chemicals in solar panels include cadmium telluride, copper indium selenide, cadmium gallium (di)selenide, copper indium gallium (di)selenide, hexafluoroethane, lead, and polyvinyl fluoride. Silicon tetrachloride, a byproduct of producing crystalline silicon, is also highly toxic. In 2016, The International Renewable Energy Agency (IRENA) estimated that the world had 250,000 metric tons of solar panel waste that year; and by 2050, the amount could reach 78 million metric tons. The Electric Power Research Institute recommends not disposing of solar panels in regular landfills: if modules break, their toxic materials could leach into soil. [21] In short, solar panels do not biodegrade and are difficult to recycle.

To make solar cells more recyclable, Belgian researchers recommend replacing silver contacts with copper ones, reducing the silicon wafers' (and panels') thickness, and removing lead from the panels' electrical connections. [22]

13. Solar farms warm the Earth's atmosphere.
Only 15% of sunlight absorbed by solar panels becomes electricity; 85% returns to the environment as heat. Re-emitted heat from large-scale solar farms affects regional and global temperatures. Scientists' modeling shows that covering 20% of the Sahara with solar farms (to power Europe) would raise local desert temperatures by 1.5°C (2.7°F). By covering 50% of the Sahara, the desert's temperature would increase by 2.5°C (4.5°F). Global temperatures would increase as much as 0.39°C—with polar regions warming more than the tropics, increasing loss of Arctic Sea ice. [23] As governments create "green new deals," how should they use this modeling?

Aerial view of a solar farm. Photo credit: Dsink000

Other areas need consideration here: dust and dirt that accumulate on panels

decreases their efficiency; washing them
uses water that might otherwise go to
farming. Further, Saharan dust, transported by wind, provides vital nutrients to the Amazon's plants and the Atlantic Ocean. Solar farms on the Sahara could have other global consequences. [24]

14. Solar PV users may believe that they generate "zero-emitting," "clean" power without awareness of the GHGs, extractions, smelting, chemicals and cargo shipping involved in manufacturing such systems—or the impacts of their disposal. If our only hope is to live with much less human impact to ecosystems, then how/could we decrease solar PVs' impacts? Could we stop calling solar PV power systems "green" and "carbon-neutral?" If not, why not?

Facebook responses

I posted this article on Facebook, March 3rd. Here are some of the exchanges I had with readers:

Q: If solar has so many hazards, what should I spend my money on?

KS: I LOVE your question: What should I spend my money on? May many more people and governments ask this question.

I dream that money can go to every household getting at least two raised planting beds with nutrient-dense soil and insulating covers–so we could grow more of our food. Industrial agriculture has taken that skill from so many of us; industrial ag also guzzles energy. #2, I'd welcome educational forums so that people could discuss your question. We could respectfully ask, What's essential? What's a luxury? What's within our ecological means?

Please note: In some cases, I can see that solar PV power is of great benefit. Also, the points I raise about solar's ecological hazards are worthy of respectful discussion. I don't consider solar a one-size fits all solution.

Q: Can't smelters be powered by renewables?

KS: As I understand, most silicon is smelted in China, where regulations are limited or non-existent. I personally know a man whose "socially-conscious" investment firm bought a silicon smelter; and it comes with not one, but TWO coal-fired power plants to ensure that power to the smelter will not be interrupted. In Iceland, United Silicon, in Helguvik, has significantly increased the amount of coal that the country burns. In the U.S., the German company, Wacker, opened a silicon smelter in Tennessee in 2016; it's powered by a combination of coal, nuclear and hydro power. I know of other examples like these. I do not know of a smelter powered by solar or wind power.

Q: Despite its hazards, isn't solar power still better than fossil fuels?

KS: My focus is not on quantifying whether solar is more or less harmful than other fuel sources. My point is that it does have ecological impacts. If we look at solar from its cradle-to-cradle, it's not pure and clean, not carbon-neutral. It's not zero-emitting. We do ourselves a disservice when we ignore its ecological impacts…and when we ignore that it's not able to power industrial processes like smelting.

For the record, I am no fan of nuclear power. During routine operations, they leak electromagnetic radiation, and children nearby have higher rates of leukemia. Further, manufacturing all that cement generates equal or greater amounts of CO_2. I advocate for substantial degrowth among those of us who have clean water, indoor plumbing, nutrient-dense food and basic electricity. Instead of manufacturing e-vehicles (for example), we need to quit the individually owned vehicle altogether. With solar power, are we aiming to continue current lifestyle levels? Can we recognize that solar power has ecological impacts, that it's not a cure-all? Could we give attention to reducing production and consumption…or do we just rest with the idea that solar is our solution?

Coilín ÓhAiseadha (a scientist who's published peer-reviewed papers comparing fuel sources): It is not practicable for solar power to provide enough energy for a large industrial nation to power its factories, water treatment plants, hospitals, mass transit systems. Two reasons:

1. Intermittency, i.e., no solar power at night. This is not easily solved by energy storage at utility scale, except where pumped hydroelectric storage can easily be constructed.
2. Power density, i.e., the fact that utility-scale solar power requires vast land areas.

The solutions are technically conceivable but not practically do-able.

KS: Thanks for your clarity. How can we communicate your clarity to the public, policymakers and others concerned about our future? Could we create forums to inform people about realistic limits to growth and energy use–so that we could move forward realistically? Do you know of any such forums? –Katie Singer

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Katie Singer writes about the energy, extractions, toxic waste and greenhouse gases involved in manufacturing computers, telecom infrastructure, electric vehicles and other electronic technologies. She believes that if she’s not aware that she’s part of the problem, then she can’t be part of the solution. She dreams that every smartphone user learns about the supply chain of one substance (of 1000+) in a smartphone. Her most recent book is *An Electronic Silent Spring*. She currently writes about nature, democracy and technology for Wall Street International Magazine.
Visit www.OurWeb.tech and www.ElectronicSilentSpring.com.

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High-speed perovskite thin-film solar cells manufacturing

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Air Force Research Laboratory - Materials and Manufacturing Directorate

Among different alternative energy technologies, thin-film photovoltaics (PVs) are gaining greater acceptance as clean and sustainable energy at a cost-competitive with fossil fuels. One shortcoming of PVs is the associated material and fabrication costs for manufacturing such photovoltaic modules at reasonable efficiency levels. What is needed are improvements in low-temperature, roll-to-roll processes to manufacture thin films.

Thin-film perovskite solar cells are made from a recognized, preferred material with the advantage of full low-temperature solution processability and therefore adaptable to roll-to-roll production yielding flexible products. One of the main challenges with these materials, however, is being able to finely control the film morphology during the deposition and crystallization of the perovskite layer. Processes that can optimize the film's perovskite layer with large grains are highly desirable for reduced recombination of charge carriers.

Air Force researchers led by Santanu Bag and Michael Durstock have developed a process to make uniform thin films with micron-size perovskite grains, by using a controlled amount of metal ions in a precursor solution.

In one example of this process, large organo-lead halide-based perovskite grains are formed during low-temperature thin film growth by adding sodium ions to the precursor solution in a two-step interdiffusion process. This generates films with improved power conversion efficiencies compared with non-sodium thin films.

Images

- Researchers at the Air Force's Materials and Manufacturing Directorate have demonstrated the ability to print solar cells on 3-D surfaces using a modified aerosol spray printer.
  David Dixon/Air Force

Benefits

- All-solution, two-step spin coating process amenable to most plastic substrates
- Low-temperature process
- Process can be used to create a multi-layer perovskite structure

The Opportunity

- Businesses can commercialize the technology by licensing it from the Air Force
- Potential for collaboration with Air Force researchers
- Contact TechLink for more information

Articles & Downloads

- Aerosol-Jet-Assisted Thin-Film Growth of CH3NH3PbI3 Perovskites—A Means to Achieve High Quality, Defect-Free Films for Efficient Solar Cells

IP

- U.S. Patent 9,570,240
- U.S. Patent 10,734,582

RESOURCES

- **Grow your business with technology transfer**
- **How to work with TechLink to license DOD and VA technology**
- **Frequently asked questions**

Similar Technologies

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Synthesis Of High-Purity Bulk Copper Indium Gallium Selenide Materials

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Synthesis Of High-Purity Bulk Copper Indium Gallium Selenide Materials

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Method for fabrication of copper-indium gallium oxide and chalcogenide thin films

05-071 DEPARTMENT OF EDUCATION

Chapter 161: PURCHASE AND STORAGE OF HAZARDOUS CHEMICALS

Summary: This rule establishes standards for the purchase and storage of hazardous chemicals in all public schools of the state.

1. DEFINITIONS

As used in this chapter, unless the context otherwise indicates, the following terms have the following meanings:

Hazardous chemical: "Hazardous chemical" means a chemical which is a physical hazard or a health hazard, as listed by the (Maine Department of Labor) Bureau of Labor Standards.

Health hazard: "Health hazard" means a chemical which is:

a. Listed in the Toxic and Hazardous Substance section of the regulations of the Occupational Health and Safety Act labeling standard in the United States Code of Federal Regulations 29, Part 1910, Subpart Z;

b. Listed in the Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment, American conference of Governmental Industrial Hygienists, latest edition;

c. A carcinogen or potential carcinogen, listed in The Registry of Toxic Effects of Chemical Substances, published by the National Institute for Occupational Safety and Health, latest edition based on the National Toxicology Program Annual Report on Carcinogens or the International Agency for Research on Cancer Monographs:

d. Listed as radioactive material in regulations promulgated by the United States Nuclear Regulatory Commission;

e. Contained on a list established by the director (of the Bureau of Labor Standards) by rule after consultation with the Bureau of Health and which meets any of the following criteria:

(1) Has a median lethal oral dose of not more than 500 milligrams per kilogram of body weight;

(2) Has a median lethal dermal dose of not more than 1,000 milligrams per kilogram of body weight;

(3) Has median inhalation lethal concentration in air of not more than 2,000 parts per million by volume of gas or vapor, or more than 2 milligrams per liter but not more than 20 milligrams per liter of mist, fume or dust; or

(4) Has been found by the director (of the Bureau of Labor Standards), based on established scientific principles, to have significant potential to cause adverse, acute or chronic health effects; or

f. A mixture which is a health hazard based on application of the criteria a through e to the mixture as a whole, or which contains more than 1% by weight or volume of a chemical which is a health hazard or which contains more than 0.1% by weight or volume of a carcinogen identified in accordance with paragraph c.

Material Safety Data Sheet: "Material Safety Data Sheet" means a form containing information concerning a hazardous chemical substantially equivalent in content to Form 20 of the United States Occupational Safety and Health Administration, but which includes both acute and chronic health hazard information.

Physical hazard: "Physical hazard" means a chemical which is:

a. Listed in the United States Department of Transportation Hazardous Materials Table, 49 Code of Federal Regulations 172,101;

b. Contained on a list established by the director (of the Bureau of Labor Standards) after consultation with the State Fire Marshal and which meets any of the following criteria:

(1) Is a combustible liquid, i.e., any liquid with a flash point above 100 degrees F, and below 200 degrees F.;

(2) Is a compressed gas (other than air), i.e., any chemical having in the container an absolute pressure exceeding 40 PSI at 70 degrees F. or having an absolute pressure exceeding 104 PSI at 130 degrees F. or any liquid having a vapor pressure exceeding 40 PSI absolute pressure at 100 degrees F.;

(3) Is an explosive, i.e., any chemical that causes a sudden, almost instantaneous release of pressure, gas and heat when subjected to sudden shock, pressure or high temperature;

(4) Is a flammable substance, i.e., any liquid with a flash point of below 100 degrees F., solid that is liable to cause fire through friction,

absorption of moisture, spontaneous chemical change or retained heat from manufacturing or processing or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard, or gas which at atmospheric temperature or pressure forms a flammable mixture with air when present at a concentration of 13% or less by volume or that forms a range of flammable mixtures with air wider than 12% by volume regardless of the lower limit;

(5) Is an organic peroxide, i.e., an organic compound that contains the bivalent -0-0- structure and which is a derivative of hydrogen peroxide where one or more hydrogen atoms have been replaced by organic radicals;

(6) Is an oxidizer, i.e., a chemical that initiates or promotes combustion in other materials thereby causing fire;

(7) Is pyrophoric, i.e., a chemical that will ignite spontaneously in air at a temperature of 130 degrees F. or below;

(8) Is unstable (reactive), i,e., a chemical which will vigorously react under conditions of shock, pressure or temperature, or

(9) Is water reactive, i.e., a chemical that reacts with water to release a gas that is either flammable or presents a health hazard; or

c. A mixture which is a physical hazard based on applicability of the criteria of paragraphs a and b to the mixture as a whole.

2. PURCHASE OF HAZARDOUS CHEMICALS

A. A Hazardous Chemical Screening Process shall be established in each school administrative unit to review and approve the purchase of any hazardous chemical required by any department, academic as well as service function. The process will be conducted under the direction of the superintendent of the school unit (or his or her representative) in consultation with school employees in speciality areas in which the hazardous chemicals are to be used,

B. Requests for the purchase of a hazardous chemical shall include at least the following information:

1. The common and chemical name of the chemical;

2. The amount of the chemical needed for the year;

3. The storage requirements, curricular use and waste disposal procedures for the chemical; and

4. The amount and age of any existing quantities of the chemical.

C. When purchasing hazardous chemicals that have a shelflife of greater than two years, the school unit shall order quantities which can be fully consumed under normal conditions and use within two years of the purchase date. If the hazardous chemical has a shelflife of less than two years, the quantity purchased must be consumable under normal conditions and use within the stated shelf-life period.

3. STORAGE OF HAZARDOUS CHEMICALS

A. Inventory lists of all hazardous chemicals shall be submitted to the Director of the Bureau of Labor Standards, Department of Labor. Those lists shall be updated annually.

B. Chemicals which are beyond their published shelf-life or expiration date or which are chemical wastes (including unwanted and unneeded chemical or chemicals) shall be disposed of in accordance with applicable state (38 MRSA Section 1301 et seq. and Chapters 850857 of the Maine Department of Environmental Protection's Hazardous Waste Management Rules) and federal (Title 40 Code of Federal Regulations, Chapters 260-266) laws and regulations.

C. Quantities of hazardous chemicals in storage shall be limited to that expected to be used in a two year period.

D. Hazardous chemicals shall be stored in accordance with the specifications described on the Material Safety Data Sheets, consistent with an acceptable compatibility classification system and shall be accurately and appropriately labeled in accordance with 26 MRSA Section 1713.

E. Storage areas shall be secure and accessible only to trained personnel. Storage shall be on steel or wood shelving with acid-resistant paint with safety lips to prevent spillage. Shelves shall be securely anchored to the floor, wall and/or ceiling and shall be clearly labeled to indicate the kind of chemicals that are to be stored there.

F. It is recommended that a continuous flow (plumbed) eyewash station, which is capable of providing fifteen (15) minutes of continuous irrigation of both eyes, and a deluge shower be readily accessible from the storage area.

G. There shall be an ABC fire extinguisher, or its equivalent, of at least 10 pounds and preferably 20 pounds capacity within fifty (50) feet of the storage area,

H. Material and equipment for spill control shall be provided,

I. It is recommended that chemical storage areas should be vented to provide four (4) room changes per hour to the outside of the building away from air intakes, Vents shall be in operation whenever school is in session or whenever school personnel are in attendance.

4. MONITORING

A. The Department of Education shall monitor the school unit's compliance with these rules as part of the Comprehensive School Review required in 20-A MRSA § 4504 (2).

B. Other monitoring visits may be scheduled at the discretion of the Commissioner.,

5. ENFORCEMENT MEASURES

A. The superintendent of any school or school unit which fails to comply with the above standards shall be notified in writing pending enforcement action by the Commissioner. Such notice shall include a statement of the laws and regulations with which the school or school unit fails to comply.

B. School units failing to comply with the above standards shall be given notice and the opportunity for a hearing. The Commissioner may withhold subsidy and other state funds from a school unit until compliance is achieved. If compliance is not achieved within a time determined by the Commissioner, the Commissioner may refer the matter to the Attorney General for legal action.

STATUTORY AUTHORITY: 20-A MRSA § 15613 (14)

EFFECTIVE DATE: September 1, 1991

EFFECTIVE DATE (ELECTRONIC CONVERSION): May 19, 1996