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May 6, 2025

Committee on Energy, Utilities, and Technology
c/o Office of Fiscal and Program Review
5 State House Station
Augusta, ME 04333

RE: Testimony in Support of LD 1868, An Act to Advance a Clean Energy Economy by Updating Renewable and Clean Resource Procurement Laws

Dear Senator Lawrence, Representative Sachs, and other members of the Committee,

My name is Steve Clemmer, Director of Energy Research in the Union of Concerned Scientists (UCS) Climate and Energy Program. UCS is the nation's leading science based non-profit organization with more than a half a million supporters, including more than 2,500 in Maine. I offer this testimony on behalf of UCS in support of LD 1868.

Accelerating Maine's renewable and clean energy targets to achieve 100 percent carbon free electricity by 2040 will help stabilize and lower energy costs for homes and businesses and create new jobs and investment in a rapidly growing clean energy industry. It is also a critical component of meeting Maine's climate goals as we continue to replace gas and oil use in homes, businesses, and transportation with a growing supply of zero carbon electricity.

Renewable Portfolio Standards (RPS) and broader Clean Electricity Standards (CES) have been a popular, successful, and cost-effective policy. As of August 2024, 29 states and the District Columbia have adopted RPSs and CESs, according to Lawrence Berkeley National Laboratory (LBNL).¹ Sixteen states, including Maine, have RPS targets of at least 50% of retail sales, four states have adopted 100% RPSs, and 16 states have broader 100% CESs that reach these targets between 2040 and 2050. Adopting a 100% CES by 2040 would allow Maine to maintain its role as a clean energy leader.

State RPSs have been a key driver for renewable energy deployment in the United States, contributing to major cost reductions for wind and solar. National average power purchase agreement (PPA) prices for wind fell by nearly 70% between 2009 and 2022,² while PPA prices for utility-scale solar projects fell by 87% between 2010 and 2023, according to LBNL.³ State RPSs, combined with long-term procurement policies, have provided stability and predictability for renewable energy developers that have helped lower the cost of financing projects. The policy has been so successful that many states, including Maine, have continued to strengthen their clean energy targets over the past 20 years.⁴

Here are three main reasons why adopting a 100% CES by 2040 is so important for Maine:

¹ Barbose, G. 2024. *U.S. State Renewables Portfolio & Clean Electricity Standards: 2024 Status Update*. Lawrence Berkeley National Laboratory. Online at: <https://emp.lbl.gov/projects/renewables-portfolio/>

² Wiser, R., D. Millstein, B. Hoen, M. Bolinger, W. Gorman, J. Rand, G. Barbose, A. Cheyette, N. Darghouth, S. Jeong, J. Kemp, E. O'Shaughnessy, B. Paulos, and J. Seel. *Land-Based Market Report: 2024 Edition*. Lawrence Berkeley National Laboratory. Online at: <https://emp.lbl.gov/wind-technologies-market-report>

³ Seel, J., J. Kemp, A. Cheyette, D. Millstein, W. Gorman, S. Jeong, D. Robson, R. Setiawan, and M. Bolinger. *Utility-Scale Solar, 2024 Edition*. Lawrence Berkeley National Laboratory. Online at: <https://emp.lbl.gov/utility-scale-solar>

⁴ Barbose, G. 2024, at p. 10.

LD 1868 could lower electricity prices and overall energy costs

Recent studies commissioned by Governor's Energy Office (GEO) and the results of past RPS procurements by the Maine Public Utilities Commission (PUC) provide compelling evidence that accelerating Maine's clean energy targets to 100% by 2040 could lower electricity prices and overall energy costs:

- The Maine Pathways to 2040 study shows that achieving 100% clean electricity by 2040, combined with widespread electrification of transportation and heating, could reduce average electricity prices and overall energy supply costs, resulting in a 20% reduction in average household energy costs or more than \$1,300 per year.⁵ Using low-cost renewable electricity to displace higher cost and less efficient fossil fuels for transportation and home heating is a key strategy for reducing overall energy bills. The analysis also showed that renewable energy sources (primarily new wind and solar) would provide nearly all of the electricity generation in Maine needed to meet the 100% clean electricity targets by 2040.
- These projected savings are not hypothetical. Maine's RPS has already saved ratepayers an average of \$21.5 million per year between 2011 and 2022, according to a 2024 analysis commissioned by GEO.⁶ This includes an average of \$39 million per year in wholesale price reduction benefits, which have more than offset \$17.5 million per year in RPS compliance costs. This is a conservative estimate as it does not include the economic and price suppression benefits from renewable energy facilities located in Maine that are used to comply with RPS policies in other states.
- Maine PUC data also shows that past renewable energy procurements under Maine's RPS have driven generation costs down, resulting in lower customer electricity bills. The sale of energy from approved procurements played a key role in reducing delivery prices for CMP residential customers by 5.5% and for Versant residential customers by up to 3.8% in 2022, while helping to offset high storm recovery costs seen in 2020 and 2021.⁷ The first RPS procurement in 2020 resulted in the approval of 17 renewable energy projects, with very competitive prices ranging from 2.9-4.2 cents per kilowatt-hour (kWh).⁸ The second RPS procurement in 2021 resulted in the approval of an additional seven projects, with slightly lower prices ranging from 2.8-3.9 cents/kWh.⁹

The two main drivers for recent electricity cost increases are Maine's and New England's over-dependence on imported natural gas for more than half of the region's electricity and the increase in climate change-fueled extreme weather events. High gas prices, due in large part to the Russian war in Ukraine and decisions by the US and other countries to ban Russian oil and gas imports, increased average residential electricity bills in Maine by \$60 per month between 2021 and 2023.¹⁰ In addition, CMP storm recovery costs totaling \$220 million for three storms in 2024 added \$10 per month to residential bills.¹¹ Continuing to increase and accelerate Maine's RPS and CES targets is important for reducing both of these costs.

⁵ *Maine Pathways to 2040: Analysis and Insights*. 2025. Prepared for the Maine Governor's Energy Office by the Brattle Group and Evolved Energy Research. Online at: <https://www.maine.gov/energy/sites/maine.gov.energy/files/2025-01/Maine%20Pathways%20to%202040%20Analysis%20and%20Insights.pdf>

⁶ *An Assessment of Maine's Renewable Portfolio Standard*. 2024. Prepared for the Governor's Energy Office, in collaboration with the Public Utilities Commission by Sustainable Energy Advantage, LLC. Online at: <https://www.maine.gov/energy/sites/maine.gov.energy/files/inline-files/Maine-RPS-Impacts-and-Procurement-Policy-Options-Report-Master.pdf>

⁷ Maine Public Utilities Commission. "Commission approves delivery rate decreases for Central Maine Power (CMP) and Versant Power Effective July 1." June 14, 2022. Online at: <https://www.maine.gov/tools/whatsnew/index.php?topic=puc-pressreleases&id=8025065&v=article088>

⁸ Maine Public Utilities Commission. "Commission selects renewable energy projects to help achieve Maine's Renewable Portfolio Standard Goals," September 22, 2020. Online at: <https://www.maine.gov/tools/whatsnew/index.php?topic=puc-pressreleases&id=3329595&v=article088>.

⁹ Maine Public Utilities Commission. "Maine Public Utilities Commission selects renewable energy projects in second competitive procurement," June 29, 2021. Online at: <https://www.maine.gov/tools/whatsnew/index.php?topic=puc-pressreleases&id=5089377&v=article088>

¹⁰ The average CMP residential customer experienced a \$30 per month increase for standard offer service in 2021-2022 and an additional \$32 per month in 2022-2023 due to higher gas prices on the regional market.

<https://www.maine.gov/tools/whatsnew/index.php?topic=puc-pressreleases&id=6040934&v=article088>;

<https://www.maine.gov/tools/whatsnew/index.php?topic=puc-pressreleases&id=9617342&v=article088>

¹¹ <https://www.pressherald.com/2024/06/12/cmp-bills-to-go-up-this-summer-after-regulators-approve-rate-hikes-tied-to-storm-costs/>

LD 1868 will create new jobs and provide significant economic development benefits

Maine spends more than \$4 billion per year on imported fossil fuels. Using this money to invest in energy efficiency and cleaner, homegrown energy sources will create new high-quality jobs and grow Maine's economy, while increasing energy independence and energy security. Again, this is not hypothetical as documented in these recent studies and past RPS procurements:

- Maine's RPS has resulted in over \$100 million in direct investment, \$900 million in operations and maintenance spending, over 1,000 full-time equivalent (FTE) jobs, and over \$1 billion in worker income between 2008 and 2022, according to the 2024 report commissioned by GEO.
- The 17 renewable energy projects included in the first RPS procurement in 2020 provided an estimated 450 FTE jobs during construction and 30 FTE jobs per year during operation, more than \$145 million in capital spending with Maine-based entities, \$3 million per year in goods and services from Maine companies over 20-years, and \$4.7 million per year in taxes and payments to host communities. The seven projects included in the second procurement in 2021 provided an additional 175 FTE jobs during construction, 14 FTE jobs per year during operations, and contribute millions of dollars to Maine's economy over the 20-year contract period.
- Maine's clean energy economy grew more than three times faster than its overall economy between 2016 and 2022, according to the 2023 Maine Clean Energy Industry Report.¹² Maine's renewable electric power generation sector grew by 11% between 2018 and 2022, a faster rate than the 5% growth at the national level. Clean energy jobs in Maine have bounced back from COVID-19 disruptions and are back on the pathway to reach Governor Mills' goal of supporting 30,000 clean energy jobs by 2030.

LD 1868 will support Maine's climate goals by reducing emissions from imported oil and gas

- The Pathways to 2040 study showed that accelerating Maine's RPS targets to achieve 100% clean electricity by 2040, combined with widespread electrification of transportation and heating, are key strategies for achieving the state's climate goals and reaching carbon neutrality in Maine by 2045, while lowering overall energy costs to consumers.
- The first two competitive RPS procurements in 2020 and 2021 will reduce greenhouse gas emissions by 760,000 tons per year, according to the PUC.

While UCS supports LD 1868, we recommend four improvements to further strengthen the bill:

1. ***Require hydroelectric projects to be certified as low impact by the Low Impact Hydropower Institute (LIHI).***¹³ Requiring low impact certification will ensure that only hydro projects meeting stringent science-based, socio-ecological standards receive the added benefits and incentives from participating in the RPS and CES. The qualifying language in Maine's existing RPS – "meets all state and federal fish passage requirements" – is insufficient to protect local ecosystems and communities. At least six states (DE, MA, NJ, OR, PA, VT) use LIHI's low-impact certification program as an eligibility requirement for hydro participation in RPS programs.¹⁴ In fact, many hydro facilities in Maine are already LIHI certified and are currently being used to comply with the Massachusetts CES. In New England, LIHI has certified 114 facilities with a total capacity of 984 MW capacity, which is about half of the total hydro installed capacity in the Region.¹⁵ For more details, see the testimony from Shannon Ames, Executive Director of LIHI. UCS supports this testimony and has served on LIHI's Board of Directors for more than 20 years.
2. ***Remove the multiplier for and eligibility of municipal solid waste (MSW) incinerators.*** Under Maine's current RPS law, a 300% multiplier is applied to the output of a generator fueled by municipal solid waste in conjunction with recycling that has obtained a solid waste facility license from the Department of Environmental Protection. This provision is set to expire on January 1, 2027. MSW incinerators emit greenhouse gas emissions and toxic air pollutants and are often located in or near environmental justice and disadvantaged communities. UCS does not

¹² Maine Governor's Energy Office. *2023 Maine Clean Energy Industry Report*. Prepared by [bw] Research Partnership. Online at: <https://www.maine.gov/energy/sites/maine.gov.energy/files/2024-05/2023%20MECEIR%20Report%20Final.pdf>.

¹³ For more information on LIHI, see <https://lowimpacthydro.org/>.

¹⁴ LIHI's low-impact certification is also used for assessing hydro eligibility in voluntary market programs, including through Green-E and U.S. EPA's Green Power Partnership program.

¹⁵ For a map and list of LIHI certified and pending facilities, see <https://lowimpacthydro.org/facilities/>.

believe they are renewable or clean energy sources and should not be eligible for the RPS or CES, and certainly not for additional incentives, which undermines achievement of the overall targets.

3. ***Remove the temporary exemption for large customers.*** Under Maine’s current RPS law, certain large customers that made an election by December 31, 2019, can receive an exemption from the RPS until December 31, 2027, unless the EUT committee and the legislature decides to extend the exemption. Any large customer receiving this exemption is excluded from paying RPS compliance costs as well as receiving any of the associated savings or benefits from the RPS. And yet, these exempted customers are in fact receiving associated RPS benefits without contributing to the costs. As discussed above, Maine’s RPS has been putting downward pressure on electricity prices and saving money for all ratepayers, and the Pathways to 2040 study projects these savings to continue through 2040 when the 100% CES targets are reached. Thus, it does not make sense to exclude large customers from the RPS or CES targets, which undermines the achievement of these targets, reduces the deployment of clean energy, and results in lower economic, climate, and environmental benefits for all Mainers.
4. ***Include sustainability criteria, lifecycle analysis, and other guardrails for producing and using “clean fuels.”*** The Pathways to 2040 study showed that a relatively small amount electricity generation from using so-called “clean fuels, such as renewable natural gas (RNG or biomethane), synthetic natural gas (SNG), hydrogen, or biodiesel, in thermal energy plants might be needed in the distant future to meet the 100% by 2040 targets. The study also highlights the importance of conducting a lifecycle analysis that accounts for emissions during production, transportation, and use of these fuels to ensure they are actually zero or low carbon. Any residual emissions associated with “clean” fuels will undermine achieving the 100% clean electricity requirement. A 2024 UCS study provides further evidence that producing and using these fuels in thermal energy plants can pose significant climate, environmental, and public health risks.¹⁶ For example, because hydrogen has a lower energy content than natural gas, reductions in carbon emissions can be a lot less than the blending percentage. Upstream leakage of natural gas, hydrogen, and biomethane from producing and transporting those fuels could result in an overall increase in heat trapping emissions and more than offset carbon dioxide reductions at the smokestack. Burning hydrogen or biomethane in gas plants can also result in an increase in nitrogen oxide (NOx) emissions and other pollutants that can be harmful to people living near those plants. Increased production of biomethane can result in more air and water pollution and other environmental and public health impacts for people living near the sources of those fuels. Thus, we recommend adding language to the bill that would help avoid or minimize these unintended outcomes.

For these reasons, we encourage you to vote “Ought to Pass” on LD 1868 with these recommended improvements. Thank you for the opportunity to testify.

¹⁶ Rogers, J. M. Chavez, and J. McNamara. 2024. *Beyond the Smokestack: Assessing the Impacts of Approaches to Cutting Gas Plant Pollution*. Union of Concerned Scientists. Online at: <https://www.ucs.org/resources/beyond-smokestack>. We also released the UCS Gas Plant Alternatives Tool (GPAT), which is an interactive spreadsheet tool for understanding pollution from specific gas power plants and the impact that biomethane, CCS, and hydrogen co-firing can have on their carbon emissions. Online at: <https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/UN27KB>.