SOLAR ENERGY ASSOCIATION OF MAINE

Testimony in Support of the Sponsor's Amendment to LD 327

An Act to Provide Maine Ratepayers with Equitable Access

to Interconnection of Distributed Energy Resources

Steven Weems, Board Member, Solar Energy Association of Maine

President, Dirigo Community Solar Group

To the Joint Standing Committee on Energy, Utilities, and Technology

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Senator Lawrence, Representative Zeigler, and other distinguished members of the Joint Standing Committee on Energy, Utilities, and Technology: my name is Steve Weems, Board Member of the Solar Energy Association of Maine (SEAM); also founder and President of Dirigo Community Solar Group (Dirigo CSG), a nonprofit association of 14 small, member-owned community solar farms. SEAM and Dirigo CSG strongly support the Sponsor's Amendment to LD 327. It addresses two vitally important issues constructively – (i) grid interconnection of renewable resources and (ii) equitable treatment of electricity customers. It is a direct and thoughtful approach to moving forward to address interconnection delays and cost allocation issues. It would establish a rational approach to evaluating the true benefits and costs of distributed energy resources to all ratepayers, as a precursor to both renewable energy program design and considering rates by the Public Utilities Commission (PUC). We ask you to see the value and fairness of this bill, and move it forward with a strong Ought-to-Pass endorsement.

The appointment of an interconnection ombudsman is a sorely-needed

institutional improvement. The funding mechanism is neutral to ratepayers. Creation of this position will not resolve the myriad of grid inadequacies, bureaucratic delays, and cost allocation issues resulting in the interconnection horrors renewable energy applicants, large and small, are facing. However, It will get undivided attention on this issue and should to help.

Section 3 of the sponsor's amendment (**35-A MRSA Section 3473, subsection 1** is amended to read) is especially meritorious. Its monitoring requirements and the complementary reporting specified in Section 4 (**35-A MRSA Section 3473, subsection 1-A** is enacted to read) would lead to a much higher, informed level of understanding of the actual benefits and costs of solar energy resources. The specified list of benefits and costs to monitor are widely-accepted, established phenomena, with national and regional data bases. They encompass the type of economic analysis that is necessary to undertake to arrive at both thoughtful program design (e.g., distributed generation, including net energy billing programs), and innovative electricity rate design. We believe it would be highly desirable – in the pursuit of both knowledge and ratepayer equity – to enact this as a statutory requirement, as these two sections would do.

Without changing their essential character, we suggest some modest alterations to the factors that would be considered in Section 3 as follows:

A. Revenue from the sale of renewable energy certificates (RECs);
B. Market price effects [Demand reduction induced price effects (DRIPE)];
C. Avoided or reduced costs associated with:
    1) Electricity capacity requirements;
    2) Environmental compliance requirements;
    3) Portfolio requirements established in section 3210;
    4) Renewable energy certificate suppression;
    5) Electricity transmission costs;
    6) Electricity distribution costs; and
D. Societal benefits associated with reduced greenhouse gas emissions and other air pollutants (e.g., nitrous oxides).

Sections 5, 6, and 7 of the sponsor's amendment seem excellent, with our only reservation being the limited time available to think about them before writing this testimony. We might have supplemental thoughts based on commentary at the public hearing or further review.

In **Section 8. Solar interconnection cost allocation method and rules**, we think it would be helpful to specify that the evaluation and report specified in the last paragraph 4 must include a consideration of all the factors specified in Section 3 of the sponsor's amendment as listed above.

In sum, we conclude enactment of this bill would be highly constructive in raising the process of renewable energy program design and electricity ratemaking to a higher level of knowledge and fairness. We urge a strong Ought-to-Pass report.

We are attaching two pages from the final report of the DG Stakeholder Group. These are from Appendix A of that report, which covers the work of the two economic consultants [Synapse Energy Economics (Synapse) and Sustainable Energy Advantage (SEA)] who were engaged to do the underlying economic analysis. This contains further explanation of the list in Section 3 of the sponsor's amendment, as modified above.

Appendix A (attached)

Table 6. Benefits and Costs Included in the Maine Test

Type of Impact	Impact	Benefit or Cost?	Method
Generation	Avoided Energy Cost	Benefit	AESC 2021
	Avoided Capacity Cost	Benefit	AESC 2021
	Avoided Environmental Compliance	Benefit	AESC 2021
	Avoided RPS Compliance Costs	Benefit	AESC 2021
	Market Price Effects ("DRIPE")	Benefit	AESC 2021
Transmission	Avoided PTF Costs	Benefit	Efficiency Maine assumptions
	Avoided Non-PTF Costs	Benefit	Efficiency Maine assumptions – only applied to BTM
Distribution	Avoided Distribution Costs	Benefit	Efficiency Maine assumptions – only applied to BTM
General	Renewable Energy Credit Prices	Benefit	Sustainable Energy Advantage (SEA) "CREST" Model
	DG Costs	Cost	Based on program design and total cost from SEA "CREST" Model
	Program Administration Costs	Cost	Input from utilities ($600,000 for first 5 years, $300,000 for remaining generation period)
Societal	Avoided CO_2	Benefit	AESC 2021
	Avoided NOx	Benefit	AESC 2021

Table 7 provides brief definitions for the benefits listed above. See Appendix Section A.3 for more details. For full definitions, methodologies, and resources, see the Methods, Tools, and Resources (MTR) manual published by the National Energy Screening Project (NESP).[36]

[36] *Ibid.*

Table 7. Definitions of Benefits Included in the Maine Test

Impact	Definition
Utility system benefits	
Avoided energy costs	Avoided fuel and operating costs associated with producing or procuring energy.
Avoided capacity costs	Avoided cost of building or procuring capacity to meet the peak demand of the generation system.
Avoided environmental compliance costs	The avoided cost of complying with environmental requirements for air emissions or other environmental factors.
Avoided RPS compliance costs	The avoided cost of complying with a renewable portfolio standard (RPS) or similar policy such as clean energy standards (CES) or clean peak standards (CPS).
Market price effects/demand reduction induced price effects (DRIPE)	The price reduction effect in competitive wholesale electricity markets price impacts from reducing system demand or increasing low-cost supply.
Avoided transmission costs	The avoided (or increased) cost of upgrading the transmission system to safely and reliably transfer electricity between regions. This avoided cost applies if the DERs passively defers investments by reducing load during transmission peak periods or if the DER is strategically placed to avoid transmission investments and is operated for that purpose. Alternatively, DERs can increase costs on the transmission system by adding new load.
Avoided distribution costs	The avoided (or increased) cost of upgrading the distribution system (including substations) to transfer electricity in local electric grids. If peak demand exceeds capacity of a circuit, it will require investments to increase distribution capacity to a level that preserves safety and reliability. Similar to transmission avoided costs, DERs can passively or actively reduce strain on the distribution system. Alternatively, DERs can increase costs by adding new load.
REC revenue	Revenue from selling renewable energy certificates (RECs). RECs are credits designed to represent the clean energy attributes of renewable energy generation.
Societal benefits	
Greenhouse gas (GHG) emissions impacts	The benefit associated with reducing GHG emissions because of DERs. GHGs are created during fossil fuel-based energy production, transmission, and distribution. DERs that produce clean energy can avoid GHG emissions from other sources. In the BCA, this impact represents the avoided societal cost of GHG emissions.

Using the sources of data shown above, described in further detail in the ensuing subsections, we calculated the avoided costs (used interchangeably with "benefits") of each program by multiplying the estimated level of generation (in MWh) for aggregated time periods by the expected price or value (in $/MWh) in the applicable time period. We aggregated hourly time periods across each year for energy "peak" (8 am-11 pm) and "off-peak" hours (11 pm-7 am) for each season (winter and summer), according to designations of these periods by ISO-NE. Generation capacity, transmission, and distribution avoided costs were calculated by multiplying the maximum output (in kW per year) during