



## Testimony in Support of LD 1730 An Act to Make Small, Portable, Plug-in Solar Generation Devices Accessible for All Maine Residents to Address the Energy Affordability Crisis

By Rebecca Schultz,  
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January 6, 2026

Senator Lawrence, Representative Sachs, and members of the Joint Committee on Energy, Utilities and Technology, my name is Rebecca Schultz. I am a Senior Advocate for Climate and Clean Energy at the Natural Resources Council of Maine (NRCM). NRCM is Maine's leading nonpartisan environmental advocacy organization with nearly 20,000 members and supporters statewide, on whose behalf I am testifying today in **Support of the Sponsor's Amendment to LD 1730** (proposed as of December 30, 2025).

Plug-in solar, also called balcony solar, is a home appliance that allows consumers to plug in a solar panel to a standard wall outlet to generate their own power and reduce the amount of electricity they need to pull from the grid. Widely adopted in Europe, these systems consist of one, two, or three solar panels and a microinverter. They require no subsidies and have numerous benefits:

- **Affordability** – These units are cheaper per watt than rooftop solar, so they lower the bar for renters, apartment dwellers, as well as others who can't afford the high upfront costs of installing larger solar arrays on their roofs.
  - In Germany, where consumer-friendly regulations have been in place since 2019, a basic 800-watt (W) kit from Ikea costs around \$525.<sup>1</sup>
  - In the U.S., where restrictive regulation means these kits are not widely available yet, costs are higher. Comparable systems range from \$1,000-1,500 in Utah,<sup>2</sup> where enabling legislation passed earlier this year.<sup>3</sup> Costs in the U.S. are poised to decline quickly to EU levels (see Figure 1).
- **Simplicity** – These units are small, portable, and can be self-installed on a balcony railing, a fence, or in the backyard. They are designed to offset only a portion of the customer's electricity use and therefore they do not require complicated interconnection agreements with the utilities and do not participate in net metering.

<sup>1</sup> Ikea begins offering balcony solar kits, PV Magazine, June 25, 2025, <https://www.pv-magazine.com/2025/06/25/ikea-begins-offering-balcony-solar-kits/>.

"The "Stream Complete Package" starts at €449, including value-added tax. It features two 450 W solar modules, cables, an 800 W microinverter, and a mounting kit."

<sup>2</sup> If Maine requires zero-export controls, as the December 30, 2025 draft of LD 1730 does, the services of a certified electrician will be required, which will add to the full cost of installation above these estimates.

<sup>3</sup> In Utah, HB 340 passed unanimously through both chambers and went into effect in May 2025; see <https://le.utah.gov/~2025/bills/static/HB0340.html>

- **Customer savings** – LD 1730 would empower Mainers with options to reduce their energy bills. For the average household in Maine, a 1,200 W system could cut electricity bills by 21 percent or more than \$400 a year.<sup>4</sup>
- **Resilience** – Consumers can purchase these systems bundled with a battery if they choose, offering a backup power during outages.
- **System-wide benefits** – These units reduce electricity load behind the meter, keeping costs down for all ratepayers by avoiding strain on the entire upstream system, including transmission, distribution, and supply.

So why aren't these systems already being used today in Maine?

Under current law and regulation, plug-in solar falls under Level 1 classification designed for rooftop arrays that are 10-20 times larger (up to 25,000 W). It is administratively inefficient and wholly unnecessary for these small portable systems to be subject to these rules – adding cost and complexity that effectively bars Mainers from taking advantage of this consumer technology.

What LD 1730 does is create a new class of plug-in solar, ascribe it appropriate safety and consumer product standards, and prohibit participation in net energy billing.

These safety standards include, for example, what is called “anti-islanding” technology, which is a functionality of the inverter (mandated by UL 1741) that automatically disconnects the system from the grid within seconds in the event of an outage. This prevents feeding power into downed lines and protects utility workers.

However, another safety standard required by LD 1730 that may not be necessary pertains to “zero-export controls” (specified in §3475 subsection 3 on capacity limitations in the December 30 draft).

### **Proposed Amendments:**

1. **Remove or Alleviate Zero-Export Controls.** While in theory it makes sense to restrict exports since these systems are not participating in net metering, in practice these systems are so small (less wattage than a typical toaster) that there is very little risk that whatever minimal power, net of on-site load, could backfeed onto the grid and exceed safety margins.

One regional engineering study analyzing a 25 percent adoption of 1,200 W systems in the residential sector found zero net exports on an hourly basis, even during the spring and fall when residential load is lowest.<sup>5</sup>

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<sup>4</sup> This assumes annual generation of 1,523 kWh based on NREL's PV Watts calculator for Augusta, Maine; 550 kWh per month consumption per average household; and the fixed (\$29.88, including the first 50 kWh), delivery (\$0.136/kWh) and default supply rates (\$0.127/kWh) for Central Maine Power customers as of January 2026. NREL's PV Watts calculator at <https://pvwatts.nrel.gov/pvwatts.php>.

<sup>5</sup> Brooks Engineering, “Plug-In Solar Utility Impact in the United States: a Survey of Regional Issues based on Widespread Market Acceptance, December 3, 2025.

Neither the laws in Utah (up to 1,200 W) nor Germany (up to 800 W) requires zero-export controls.<sup>6</sup> Germany, with 4 million balcony solar units in use with a combined capacity of 1 GW, has had no notable system stability incidents.

What export controls will do is push this technology out of reach for many Mainers. To prevent any minimal leakage onto the system, zero-export controls would require that an additional device be installed by a certified electrician at the breaker box, with the effect of roughly doubling the total system cost and preventing self-installation.

**Given the significant barrier to access that zero-export controls will pose, particularly for renters and low-income Mainers, the Committee should carefully consider whether they are necessary.** And if necessary, then under what specific circumstances or capacity threshold should they be applied.

As written, the notification requirement (§3475 subsection 5 in the December 30 draft) will already ensure that utilities can track installations and monitor any areas of concern on their systems.

2. **Protections for Renters.** Another amendment that we urge the Committee to consider would be to prohibit landlords and condo associations from restricting installations of plug-in solar systems. In Germany, it was a law that passed in 2024 to this effect that precipitated the uptick in adoption.<sup>7</sup>

### **Conclusion:**

With legislation similar to LD 1730 being introduced in over 20 states this year, including the large markets of New York, Maryland, and Pennsylvania, demand is about to take off.<sup>8</sup> And with that demand, costs are projected to come down rapidly as manufacturers and retailers, like Home Depot, Costco, and Amazon, respond to demand (Figure 1 below).

**Without passage of LD 1730, Mainers will be left on the sideline of this major opportunity to take advantage of cheap solar technology to generate their own power, make their own energy decisions, and cut household costs.**

We therefore urge you to vote **Ought to Pass on LD 1730** and thank you for your consideration of our comments.

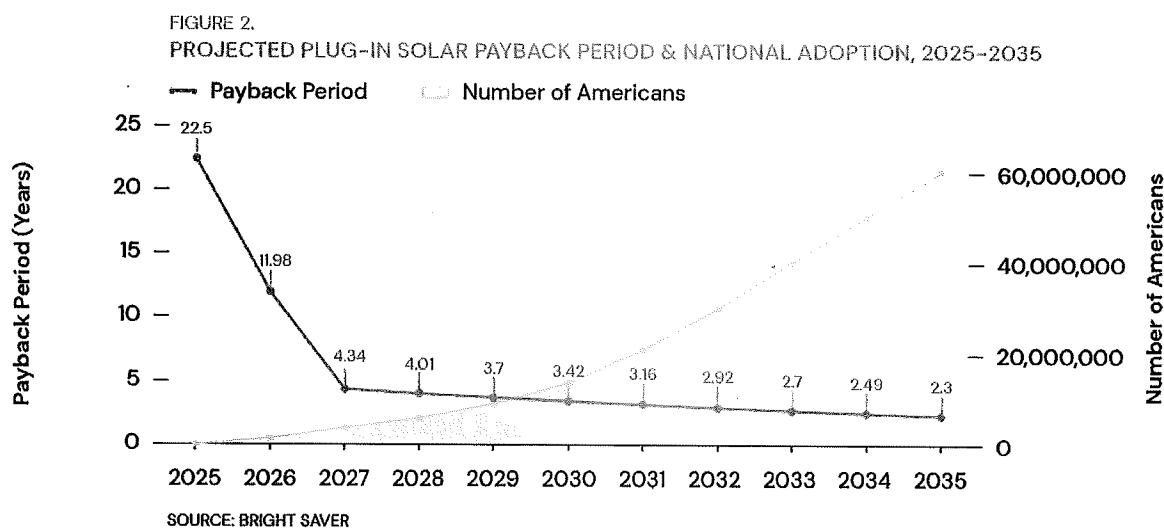
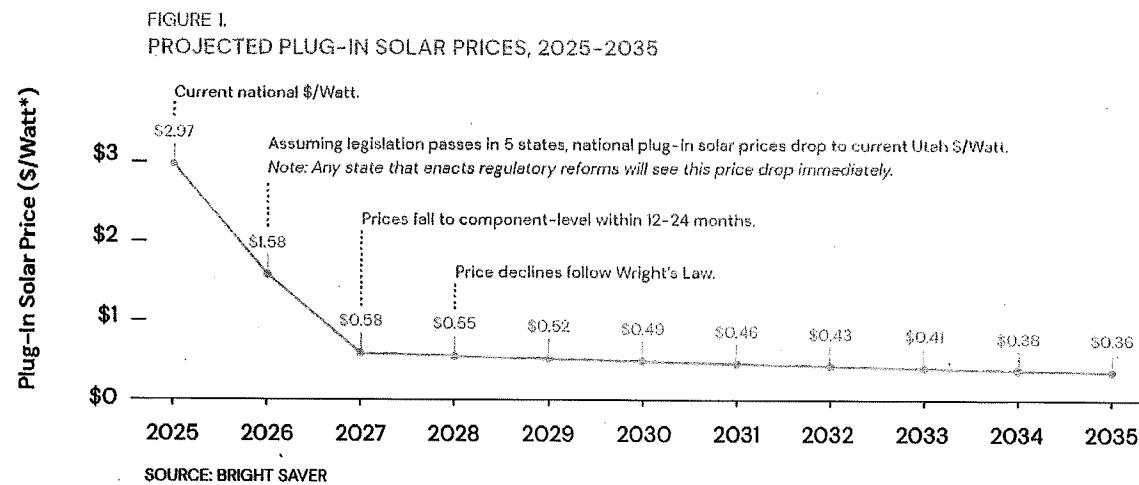
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<sup>6</sup> Plug-in solar is permitted in Germany, the Netherlands, Belgium, Spain, Portugal, Switzerland, Austria, Italy, Slovenia, Slovakia, Poland, and Lithuania. Only France allows plug-in solar but prohibits export. Gerber, et al., "Barriers to Balcony Solar and Plug-In Distributed Energy Resources in the United States," *Energies*, 20 April 2025 at <https://www.mdpi.com/1996-1073/18/8/2132>

<sup>7</sup> <https://balkon.solar/news/2024/10/17/germany-grants-renters-the-right-to-install-solar-systems-on-balconies/>

<sup>8</sup> <https://www.volts.wtf/p/whats-the-deal-with-balcony-solar>

Figure 1. Projected Plug-in Solar Costs Declines and National Adoption Following Regulatory Reforms in Five U.S. States<sup>9</sup>



<sup>9</sup> BrightSaver, Democratizing Solar: How Plug-In Solar Expands Energy Affordability and Resilience for 60 Million Americans, October 2025, at

[https://www.brightsaver.org/whitepaper?srsltid=AfmBOorMr9P4c7Y3il0pFJQYVE3VK51XyOEi61alip\\_NSyJbkERJFd-V](https://www.brightsaver.org/whitepaper?srsltid=AfmBOorMr9P4c7Y3il0pFJQYVE3VK51XyOEi61alip_NSyJbkERJFd-V)