



CENTRAL MAINE  
POWER

**Testimony in Opposition to LD 1263  
An Act to Create Jobs and Promote Investment in Maine's Economy through Increased  
Access to Solar Energy  
Committee on Energy, Utilities, and Technology  
April 16, 2015**

---

Senator Woodsome, Representative Dion, members of the Committee on Energy, Utilities and Technology, my name is Joel Harrington. I am here today to testify on behalf of Central Maine Power Company in opposition to LD 1263, An Act to Create Jobs and Promote Investment in Maine's Economy through Increased Access to Solar Energy.

Central Maine Power Company is part of a family of companies committed to addressing global climate change. Our parent company Iberdrola is one of the world's largest renewable energy developers. In fact, CMP's smart grid infrastructure relies on distributed renewable generation; 23 of CMP's communication sites are powered by solar and, in some cases, wind generation.

Last year CMP supported the value of solar study; because we believe that solar like all of our state's renewable energy sources has benefits and contributes to the diversity of our region's energy supply.

Today the U.S. solar industry has more employees than tech giants Google, Apple, Facebook and Twitter combined. Since the federal tax credit was passed in 2006, more than 150,000 solar jobs have been created in the United States. Solar distributed generation was a \$13.4 billion market in the U.S. in 2014, up from just \$3 billion in 2009. Two primary drivers that have contributed to solar's continued growth in the U.S. are: 1) falling costs; and 2) solar companies have developed creative financial solutions including leases (which represent nearly 80% of all new residential solar installations) and loan programs.

**For the first time ever, more than half a gigawatt of residential solar installations came on-line without any state incentive in 2014.**

In 2013, CMP managed the distribution interconnection of renewable resources. These were a combination of wind, solar, biomass and small hydroelectric facilities. **Overall nearly 1,600 distributed generation resources have been interconnected to the CMP electric grid since 2010.**

**Under LD 1263, by 2022 customers in CMP's service area who do not own solar generation will be subsidizing solar customers to the tune of \$55 million per year. LD 1263 would establish and**

expand three subsidies that would add to the cost of electricity in ever increasing amounts starting when the bill becomes law and increasing each year for the next 20 years.

The first is a significant expansion of net energy billing. When net energy billing was first established in the 1980s it was never meant to grow a ratepayer subsidy, in fact, it was the opposite, to jump start a technology. This is why there is a cap of 10 people who can co-own solar generation. In other words, the goal of the net energy billing program is to encourage homeowners to install renewable energy systems that are sized correctly for their needs to avoid the expansion of electric ratepayers subsidizing solar generation.

In a 2009 report, the Public Utilities Commission explains how this happens as follows:

*Net energy billing is essentially a transfer payment or subsidy that promotes the development and use of small renewable systems through funds from the utility and its general body of ratepayers. This is because net energy billing customers, in essence, receive the full value of the retail price of electricity (retail power, transmission, distribution and stranded costs) for a wholesale power product. **A net energy billing customer also does not pay for the full use of the T&D system, because T&D costs (recovered through usage charges), as well as energy costs, are offset by the customer's excess generation.** In addition, the requirement that standard offer providers net energy bill for their portion of the bill adds supplier risk and uncertainty that, if of a great enough magnitude, could result in higher standard offer service prices. The outcome is that net energy billing provides a monetary benefit to customers that install their own generation facilities that is paid for by the general body of ratepayers that do not have their own electricity generation units.*

Net energy billing is a subsidy program, whereby other customers subsidize net energy billers. In other words, most electric customers would be subsidizing their own price hike. **The net energy billing impact (additional T&D revenue that would need to be picked up by non-solar customers) under LD 1263 would initially be \$1.5M/yr, growing to \$15M/yr by 2022.**

The second and third subsidies that would add to the cost of Maine's electric ratepayers is the expansion of a solar renewable energy portfolio standard and the requirement to enter into long-term contracts.

Solar electricity already qualifies for renewable energy credits under existing law if they sold the energy they produce. That energy being put on the grid could qualify for RECs but nobody is selling the energy into the REC market they are just claiming it as a bill credit. I think the committee should be asking whether you really need a separate Renewable Portfolio Standard.

While there are solar installations that take advantage of net energy billing, I don't know of any commercial installations, so there's a good chance that consumers would be paying for the alternative compliance mechanism, not solar power. In addition, it's far more advantageous for owners of small installations to use net energy billing than it would be to sell power to the grid. Using net energy billing, a kilowatt hour is worth the full retail price of the commodity plus delivery - about 14 cents. Under this bill, a kilowatt hour would be worth about 10 cents under the alternative compliance payment rate. I'm not sure why the proponents of this legislation would want to favor the alternative compliance payment rate over net energy billing.

**LD 1263 would require electricity consumers in Maine to purchase solar power over and above the already highest-in-the-nation renewable energy requirement that already forces them to purchase nearly 40% of their electricity from renewable energy. All of the energy would be above market price.**

**LD 1263 requires CMP's customers to get into long-term solar energy contracts that bind our customers for 20 years to the tune of \$40 million per year by 2022.**

Anything that needs a 20 year subsidy should be questioned; our history of doing 20 year contracts similar to LD 1263 has not been good.

In the last 1970s and early 1980s Maine residents purchased over \$5 billion of power through long-term contracts that were ordered by the Commission. While jobs were created by the facilities that were built, many were lost because of Maine's high electric rates. By the 1990s, it became clear that most of the contracts that had been signed were significantly overpriced compared to the prevailing market. Between 1984 and 1992 Maine's electric rates rose 39% vs. 8.6% nationally. By 1994, the scale of the deferred costs became untenable, and CMP wrote off \$100 million to avoid having to increase electric rates.

LD 1263 puts in statute what you have to pay for power regardless of what it costs than to provide the power. Instead of using markets to dictate the energy supply price, we going back to setting the price which got us in trouble in the first place and led to restructuring.

**The total cost of the subsidies that CMP's customers will pay in increased electric rates per year by 2022 will total \$55 million.**

**In our 2014 report to the Public Utilities Commission, CMP disconnected over 45,000 residential and commercial accounts due to non-payment amounting to more than \$13 million in unpaid utility bills.**

CMP continues to question the wisdom of forcing utility customers – some of them with extremely low incomes – to subsidize, both directly and indirectly, energy systems that benefit only those who can afford to have them installed.

As prices for PV continue to fall, at some point the technology will be able to stand on its own, it could be argued that it can today, but electric customers will be locked into a 20 year commitment.

But a key element for Central Maine Power Company will be to continue to modernize the electric grid, creating an efficient grid that not only handles new generation and end-use technologies but also enhances the efficiency of the existing grid. CMP strongly supports implementation of technologies that, working together, improve the resiliency, functionality, reliability and operability of the grid. When all is said and done, maintaining an adequate level of generation resources, in combination with a robust grid, is necessary to ensure reliability and connectivity. But new technologies add cost and despite what you may hear can result in added transmission.

**Utility Ownership**

**Maine is the only state in the Northeast the utility cannot participate in the ownership and development of solar distributed generation.** We think that competitive parity is important and that utilities in Maine like every other state in the Northeast should be able to participate in the modernization of Maine’s energy future.

**Utility-Owned Solar in the Northeast U.S.**

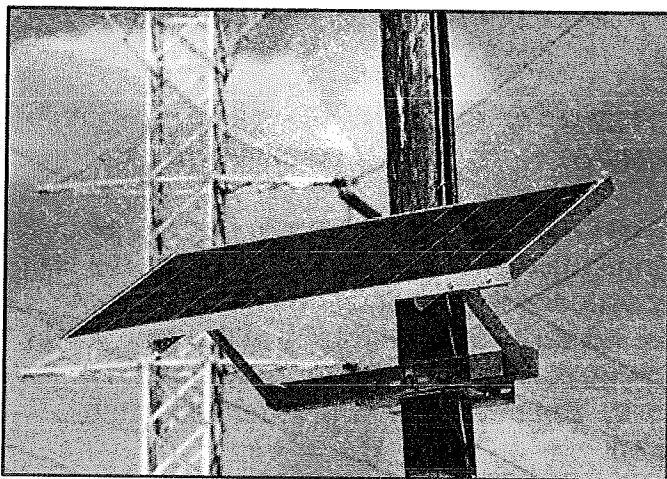
State	Installed Capacity (MWac)	Capacity Under Development (MWac) (2013)
Connecticut	61.6	30.0
Delaware	28.7	17.0
Maine	0	0
Massachusetts	345.6	14.6
New Hampshire	5.9	0
New Jersey	5,901.0	132.8
New York	1,304.5	95.0
Pennsylvania	104.5	0
Vermont	27.3	9.5

Utility scale generation in the U.S. now exceeds distributed generation by over 50%, with new projects under contract to increase installed capacity 2.7-fold.

In the U.S., utility-scale PV increased from just 5% of total annual PV installations in 2008 to 60% in 2013.

Utility-scale has been the largest sector of the overall U.S. PV market since 2012, and is projected to remain so through 2016, at which point half of the cumulative installed PV capacity in the U.S. is projected to be utility-scale.

In 2014, the average price of solar was \$3.72/watt for residential systems, \$2.39/watt for non-residential systems, and \$1.78/watt for utility scale systems.



In general, utility scale solar PV is about half the cost of distributed solar PV, and is cost competitive with wind and conventional peaking resources in many locations.

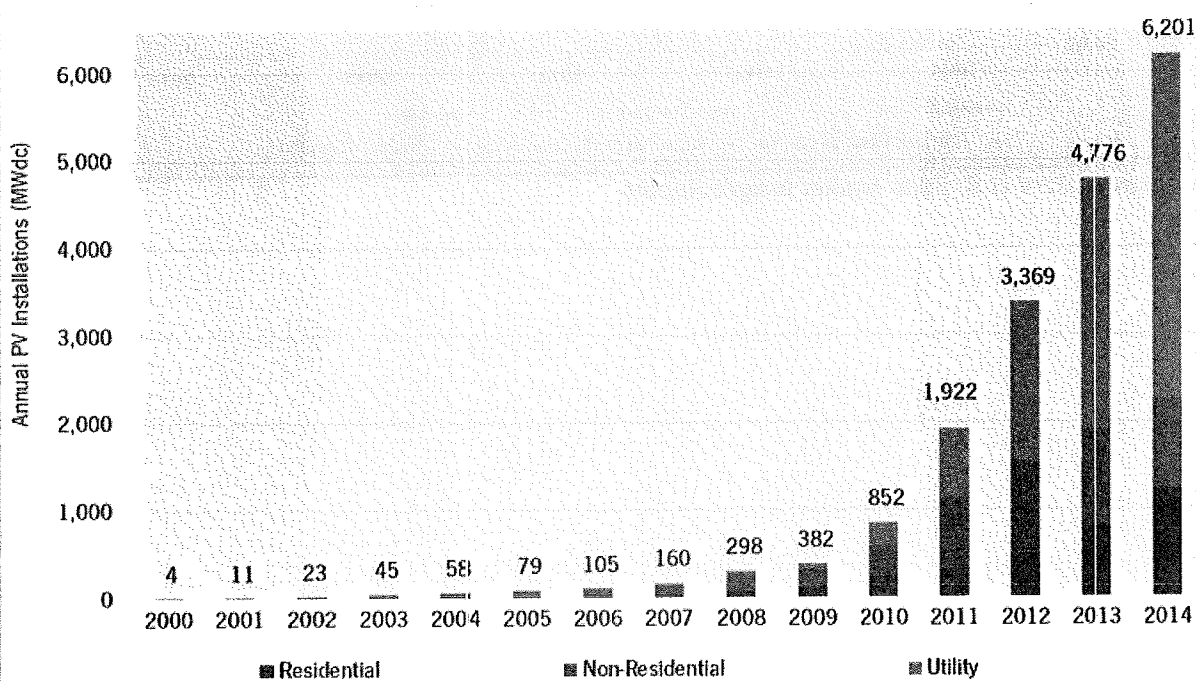
In New Jersey, Public Service Electric & Gas Company’s Solar 4 All program is developing 125 megawatts of solar capacity directly connected to the grid which is enough solar energy to power about 20,000 homes each year. 40 megawatts of that program is devoted to a “neighborhood” solar (pole

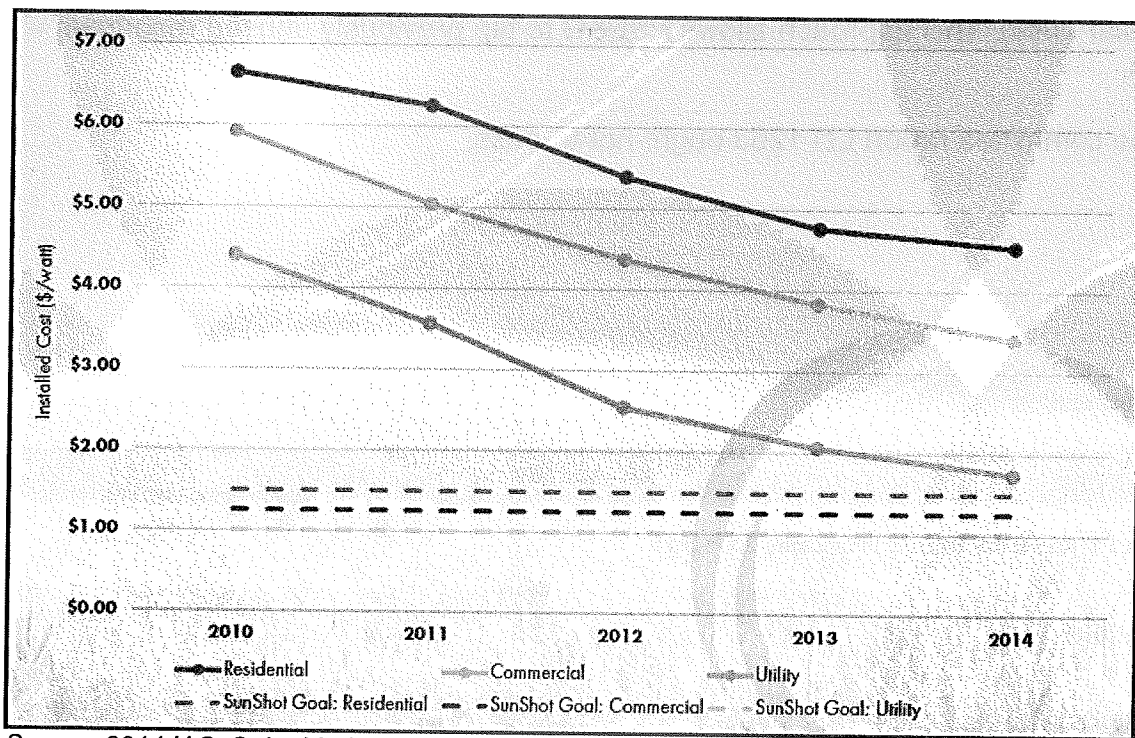
attached solar units). This approach allows PSE&G to tap previously unused resources – space on utility poles.

We urge the committee report LD 1263 ought-not-to-pass.

Thank you.

Figure 1.1 Annual U.S. Solar PV Installations, 2000-2014





Source: 2014 U.S. Solar Market Insight Report

## **Solar Distributed Generation & Net Metering**

### **Frequently Asked Questions**

These frequently asked questions are designed to help you better understand net metering, how net metering impacts electricity customers and the electric power grid, and how updates to current net metering policies will ensure that all customers have safe and reliable electricity and that electric rates are fair and affordable for all customers.

#### **What Are Distributed Generation Systems?**

Distributed generation (DG) systems are small-scale, on-site power sources located at or near customers' homes or businesses. Some common examples include rooftop solar panels, energy storage devices, fuel cells, microturbines, small wind, and combined heat and power systems. Customers with these types of generation systems connect to the local electric grid and use the grid both to buy power from their local electric company during times when their DG systems are not producing enough to meet their needs and to sell power to their electric company when their systems are producing more electricity than is needed.

#### **What Is Net Metering?**

Net metering is a billing system that allows electric customers to sell to their electric company any excess electricity generated by their DG systems. While many different DG sources may be eligible for net metering credits, solar rooftop installations are by far the most common type of DG promoted with net metering. Net metering policies were introduced to encourage the growth of DG systems when they first came to market in the 1980s. While net metering policies vary by state, customers with rooftop solar or other DG systems usually are credited at the full retail electricity rate for any electricity they sell via the grid. The full retail electricity rate includes not only the cost of the power but also all of the fixed costs of the poles, wires, meters, advanced technologies, and other infrastructure that make the electric grid safe, reliable, and able to accommodate solar panels or other DG systems. Through the credit, net-metered customers effectively are avoiding paying these costs for the grid.

#### **Do Customers With DG Systems Still Use the Power Grid?**

Yes. By its nature, electricity—regardless of how it is generated—has unique properties that do not allow it to be easily or economically stored for later use. It must be generated and delivered at the precise moment it is needed. Because the majority of rooftop solar and DG systems do not have battery storage, net-metered customers remain connected to the local electric grid and use the grid to buy power from their local electric company during times when their systems are not producing enough energy to meet their needs. For example, the sun does not shine at night, and solar power can appear or disappear rapidly over the course of a day. Netmetered customers also use the grid to sell power to when their systems are producing more electricity than is needed. DG customers also rely on the grid to ensure that their own power supply provides reliable, high-quality service at all

times. Since net-metered customers are both buying and selling electricity, they are relying on the grid more than customers without rooftop solar or other DG systems.

### **How Does Net Metering Impact Customer Bills?**

A customer's electric bill is based on the electric company's cost of providing electric service. This includes the cost of the fuels used to generate electricity and the cost to transport and deliver the electricity to the customer. Costs also include the maintenance of the grid, as well as utility programs for low-income assistance, energy efficiency, environmental improvements, and other public benefits. In general, every electric customer has an electric meter that records the amount of power delivered by its electric company. As electricity is used, the meter spins forward, much like a car's odometer records miles traveled. In the case of an electric meter, the meter records energy use in kilowatt-hours (kWh). Net-metered customers generally are credited for the electricity they sell to the grid, with their electric meter running backwards to provide a credit against the electricity that these customers must buy from their electric company at night or during other periods when their electricity use exceeds their system's output. Customers are only billed for their "net" energy use. That means that when rooftop solar or other DG customers generate electricity, they avoid paying for the utility's power, which is fair because they did not use it. But, they also avoid paying for all of the fixed costs of the grid that delivers power when they need it and takes the power they sell back to the utility. As a result, these grid costs are shifted to those customers without rooftop solar or other DG systems through higher utility bills.

### **What Is the Difference Between Retail and Wholesale Electricity Rates?**

**Retail electricity** rates are the final rates charged to customers by an electric company, based on all of the costs involved in generating, transporting, and delivering power. **Wholesale electricity** rates include the cost of the fuel used to generate electricity and the cost of buying the power in the competitive wholesale market from any number of electricity providers. They do not include the cost of transporting and delivering the electricity through the electric grid to reach a customer. Wholesale can change numerous times throughout the day.

Because of the way that net metering policies originally were designed, net-metered customers often are credited for the power they put back on the grid, usually at the full retail electricity rate, even though it would cost less for the companies to produce the electricity themselves or to buy the power on the wholesale market from other electricity providers. Many energy experts agree that net-metered customers should be compensated at the wholesale price for the electricity they produce, similar to other electricity providers. This reflects the fact that electric companies buying this power still must incur the costs of delivering the power to their customers, including the costs of maintaining the poles, wires, meters, and other infrastructure required to deliver a reliable supply of electricity.



### **How Does Net Metering Affect Electric Reliability?**

As the use of rooftop solar and other DG systems increases, so too does the two-way flow of power on the electric distribution system. To ensure the safe and reliable delivery of electricity, an electric company's distribution system must be able to safely manage/control the flow of two-way power. At the same time, electric companies face integration challenges associated with the variable, fluctuating levels of power created by wind and solar DG systems. Electric companies must invest in their distribution systems to avoid overloading circuits, causing voltage regulation or power quality problems, or jeopardizing the safety of the public or utility employees. However, if net-metered customers do not contribute to the fixed costs of maintaining the grid and keeping it operating reliably, a company's remaining customers will face higher rates to pay for these costs.

### **Should Current Net Metering Policies Be Updated?**

Yes. As rooftop solar and other DG systems become more developed, net metering policies and rate structures in many states should be updated so that everyone who uses the electric grid helps pay to maintain it and to keep it operating reliably at all times. This will ensure that all customers have safe and reliable electricity and that electric rates are fair and affordable for all customers.