

**STATE OF NEW HAMPSHIRE  
BEFORE THE  
PUBLIC UTILITIES COMMISSION**

**CONSUMER ENERGY ALLIANCE**

Docket No. DE 16-576  
RE: ALTERNATIVE NET METERING DOCKET

**PREFILED TESTIMONY  
OF  
CONSUMER ENERGY ALLIANCE**

October 21, 2016

**I. Introduction and Qualifications.**

**Q. Please state your name and business address.**

A. My name is James Voyles. My business address is 1666 K Street, NW, Suite 500, Washington, DC, 20006.

**Q. Please state your current position and educational background.**

A. I currently serve as Counsel at Consumer Energy Alliance (CEA). I am educated as an attorney and focus my efforts on energy policy, particularly renewables. CEA is a consumer advocacy organization that represents 300 member organizations and 400,000 individuals that encompass the entire U.S. economy, including families, manufacturers, farmers, airlines, chemical producers, and truckers, in addition to several others. CEA's mission is to advocate for access to affordable, reliable energy resources for each and every American.

**II. Purpose and Organization of Testimony.**

**Q. What is your purpose for testifying before the commission?**

A. CEA's purpose is to encourage the New Hampshire Public Utilities Commission to adopt energy policies that: 1) encourage the thoughtful proliferation of solar power, 2) ensure a robust electrical grid, and 3) treat electricity customers equally. As the Commission knows, solar energy technology is dramatically changing the face of modern electricity generation. From rooftop, to community, to large-scale projects, families and businesses across the country are realizing the incredible potential that solar brings in the

form of clean, affordable, and reliable energy. Accordingly, CEA encourages the adoption of policies that continue to expand the use of solar power.

**Q. How will your testimony be organized?**

A. My testimony will address the seven factors that the State Legislature bound the Commission to consider when it passed HB 1116<sup>1</sup> and initiated this proceeding.<sup>2</sup> In order, these seven factors are: 1) the costs and benefits of customer-generator facilities; 2) an avoidance of unjust and unreasonable cost shifting; 3) rate effects on all customers; 4) alternative rate structures, including time based tariffs; 5) whether there should be a limitation on the amount of generating capacity eligible for such tariffs; 6) the size of facilities eligible to receive net metering tariffs, timely recovery of lost revenue by the utility using an automatic rate adjustment mechanism; and 7) electric distribution utilities' administrative processes required to implement such tariffs and related regulatory mechanisms.

**III. Factor One – The Costs and Benefits of Customer-Generator Facilities.**

**Q. Regarding the first factor, what are the benefits of customer-generator facilities?**

A. The benefits of customer-generator solar facilities are numerous and substantial. These facilities encourage the expanded use of solar energy, which is both clean and

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<sup>1</sup> HB 1116. [http://www.gencourt.state.nh.us/bill\\_status/billText.aspx?id=293&v=&txtFormat=html](http://www.gencourt.state.nh.us/bill_status/billText.aspx?id=293&v=&txtFormat=html).

<sup>2</sup> The State of New Hampshire Public Utilities Commission. Order of Notice. 19 May 2016, [http://www.puc.state.nh.us/regulatory/Docketbk/2016/16-576/INITIAL%20FILING%20-%20PETITION/16-576\\_2016-05-19\\_OON.PDF](http://www.puc.state.nh.us/regulatory/Docketbk/2016/16-576/INITIAL%20FILING%20-%20PETITION/16-576_2016-05-19_OON.PDF).

renewable.<sup>3</sup> As a zero carbon emission energy source, customer-generators also produce health benefits. These facilities further provide the grid with new, diversified generation resources that help make the grid more resilient.<sup>4</sup>

**Q. What are some of the costs of customer-generator facilities?**

A. Because most consumer-generators remain connected to the grid, they continue to use the grid at night and throughout the day when they send power to the grid and pull some of their power from it. This means that utilities must maintain both generation and distribution capacity to provide solar customers with access to electricity beyond what their solar panels produce, particularly at peak demand times in the evening and in the winter when the sun is less accessible.<sup>5</sup> Utilities also incur integration costs like sensors, feeder upgrades, and increased flexibility in the rest of the system. Additional costs may include new metering methods, technical abilities, and billing systems. Further costs are incurred by an inability to accurately predict customer needs based on distributive generation – which is determined, in part, by capacity, geography, and even weather patterns.<sup>6</sup> Moreover, “net energy metering,” or NEM, incentives may actually be reducing the incentive to develop and deploy alternative energy technologies, such as energy storage, that might substantially alleviate some of the concerns and costs listed above.

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<sup>3</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pgs 4-5.

<sup>4</sup> See: SEIA. *Net Metering*. <http://www.seia.org/policy/distributed-solar/net-metering>.

<sup>5</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 13.

<sup>6</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. App. A.

**IV. Factor Two – An Avoidance of Unjust and Unreasonable Cost Shifting.**

**Q. How does NEM lead to unjust and unreasonable cost shifting?**

A. New Hampshire's current NEM program provides compensation for the electricity produced at the full retail rate with a 100 MW cap.<sup>7</sup> The program allows residential and commercial distributed generation customers to sell the power they do not use back to the grid. It is essentially a billing mechanism that credits solar energy facility owners for the electricity they add to the grid. This incentive based billing program has been instrumental in the rapid deployment of solar technology and was implemented at a time when the costs of installing both large-scale and rooftop solar facilities was prohibitively expensive. Over the past decade, the cost of solar installation has dramatically declined while the incentive programs in this and other states has remained the same.<sup>8</sup>

According to a solar incentive report recently released by CEA, New Hampshire's current NEM program yields an incentive equal to 99% of the installed cost of a 3.9 kW and 6 kW customer-owned facility. Simply stated, New Hampshire customers who install solar panels on their home pay for approximately 1% of their solar facility over the 25 year life of the system.<sup>9</sup> CEA is an ardent supporter of solar power and its proliferation, yet any time an incentive program creates a tax or ratepayer funded return of greater than 0%, costs are shifted from the recipient onto others.<sup>10</sup> While subsidies can be a politically acceptable practice to accomplish particular social and economic objectives,

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<sup>7</sup> HB 1116. [http://www.gencourt.state.nh.us/bill\\_status/billText.aspx?id=293&v=&txtFormat=html](http://www.gencourt.state.nh.us/bill_status/billText.aspx?id=293&v=&txtFormat=html).

<sup>8</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 10.

<sup>9</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 22.

<sup>10</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 17.

the level of subsidization – as well as the impacts on those doing the subsidizing – must always be closely scrutinized.

In this case, the costs shifted onto traditional energy users, such as families and small businesses, include the fixed costs of grid maintenance, distribution costs, and certain administrative costs required to run the program.<sup>11</sup> The continued failure of solar PV customers to pay for their share of these costs under the NEM construct results in a utility reallocating the fixed costs it did not recover from residential solar PV customers in any given billing period to all residential customers (most of whom do not self-supply) in future billing periods.<sup>12</sup> These reallocations generally occur through subsequent increases in base energy rates or through automatic energy rate adjustments. The associated cost shift appears problematic from a consumer perspective, in part, because solar customers continue to rely on the grid to sell excess power and to get energy and other services when the sun is not shining.<sup>13</sup>

**V. Factor Three – The Rate Effects on All Customers.**

**Q. Please further describe the rate effect this has on all customers.**

A. While the current cost shift may not create financial pressure on some families and businesses, it can certainly put pressure on others. Studies have shown that the average

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<sup>11</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 13.

<sup>12</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 17.

<sup>13</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 13.

residential customer with solar PV is more affluent than residential customers without solar PV.<sup>14</sup> This means that NEM based incentives result in more disposable income for affluent citizens, and less disposable income for less affluent citizens.<sup>15</sup>

**VI. Factor Four – Alternative Rate Structures, Including Time Based Tariffs.**

**Q. Does CEA endorse any alternative rate structures?**

A. As a consumer advocacy group, CEA does not prescribe nor endorse specific rate structures. CEA supports any rate structure that 1) allows for continued solar penetration, 2) ensures the efficacy of a robust electrical grid, and 3) treats traditional and solar consumers equally.

**VII. Factor Five – Whether There Should Be a Limitation on the Amount of Generating Capacity for Such Tariffs.**

**Q. Do you think there should be a limitation on the amount of generating capacity eligible for such tariffs?**

A. Similar to the previous question, CEA does not endorse specific programs and defers to state level expertise based on the opportunities and challenges present in each state. However, I wish to reiterate that CEA encourages any policy that 1) encourages the proliferation of solar energy, 2) creates a robust electrical grid, and 3) treats all customers equally.

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<sup>14</sup> Energy+Environmental Economics, Inc., California Net Energy Metering Ratepayer Impacts Evaluation, October 28, 2013, p. 11. The E3 study found that the average median household income of residential customers who installed distributed generation like solar PV since 1999 was \$91,210, compared with an average median income of \$54,283 for all residential customers in California.

Navigant Consulting Inc., California Solar Initiative Market Transformation Study (Task 2), Final Report, March 27, 2014, p. 52. This more recent study corroborated the E3 results. Navigant found that participants in the California Solar Initiative are more affluent than the population of California homeowners and 60 percent have annual household incomes of \$100,000 or more.

<sup>15</sup> Id.

**VIII. Factor Six – The Size of Facilities Eligible to Receive Net Metering Tariffs; Timely Recovery of Lost Revenue by the Utility Using an Automatic Rate Adjustment Mechanism.**

**Q. Regarding the sixth factor, what is CEA’s position on the size of facilities eligible to receive net metering tariffs, and the timely recovery of lost revenue by the utility using an automatic rate adjustment mechanism?**

A. In considering whether facilities of various sizes are eligible for NEM tariffs, CEA points to SEIA’s report that details the national average of the installed costs of a typical 3.9 kW system in dollars per watt. The cost per watt of a large-scale project (owned or leased) is \$1.60. The cost per watt of a rooftop solar facility is \$3.50 if the facility is owned by the customer and \$2.95 if the facility is leased by the customer.<sup>16</sup> The national average for incentives received per facility type is \$0.93 per watt for a large-scale solar facility (leased or owned), \$4.15 per watt for a rooftop facility that is owned, and \$5.67 per watt for a rooftop facility that is leased.<sup>17</sup>

Accordingly, CEA believes that current economics favor an emphasis on the deployment of large-scale projects, regardless of ownership, because the cost of installation is substantially less than rooftop owned and leased facilities and they are incentivized at a substantially lower rate<sup>18</sup>—which also takes significant steps towards eliminating cost shifts and unnecessarily large subsidies while ensuring that all customers benefit from same the same societal, environmental, and health benefits.

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<sup>16</sup> SEIA, 2015, Fig 2.5.

<sup>17</sup> SEIA, 2015, Fig 2.5.

<sup>18</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 7, Figure 1.

Again, individual rooftop solar incentives were created to help ignite the use of solar power amongst residential consumers. Now that the use of solar power has been kickstarted, it makes better economic sense to encourage the development of large-scale solar projects because they create economies of scale—which bring the benefits of solar to more families and businesses at a more rapid, more economically responsible rate.<sup>19</sup> These economies of scale would lower current energy prices for all consumers, avoiding the cost shifting that is resulting from the NEM incentive.

**IX. Factor Seven – Electric Distribution Utilities’ Administrative Processes Required to Implement Such Tariff and Related Regulatory Mechanisms.**

**Q. Mr. Voyles, what is CEA’s stance on the administrative processes required to implement such tariffs and related regulatory mechanisms?**

A. As a consumer advocacy organization, CEA will defer to the expertise of those who generate, transmit, and distribute electricity to speak to specific administrative processes that impact their bottom-line and New Hampshire’s electricity bills.

CEA does note that new energy programs necessarily require new administrative processes, which cost time and money.<sup>20</sup> CEA is of the opinion that the cost of new administrative processes should be included in new rates.

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<sup>19</sup> Consumer Energy Alliance. *Incentivizing Solar Energy: Analysis of U.S. Solar Incentives*. 2016, <http://consumerenergyalliance.org/cms/wp-content/uploads/2016/09/Solar-incentive-report-FINAL.pdf>. Pg. 10.

<sup>20</sup> See: Union of Concerned Scientists, *Barriers to Renewable Energy Technologies*. [http://www.ucsusa.org/clean\\_energy/smart-energy-solutions/increase-renewables/barriers-to-renewable-energy.html#.V\\_40oVcsjmI](http://www.ucsusa.org/clean_energy/smart-energy-solutions/increase-renewables/barriers-to-renewable-energy.html#.V_40oVcsjmI).

**Q. Do you have any additional thoughts you would like to share with the Commission?**

A. Yes, I would just like to reiterate that CEA is and will continue to be a strong proponent of solar energy and the continued efficacy of this dynamic energy resource. We encourage the Commission to adopt policies that expand the use of solar, ensure a robust electric grid, and avoid unreasonable cost shifting.

Indeed, CEA encourages policies that are pro-solar, pro-grid, and pro-consumer.

**Q. Does this conclude your testimony?**

A. Yes it does.