



The Energy and Technology Committee

Public Hearing, March 1, 2018

Office of Consumer Counsel

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Testimony of Elin Swanson Katz, Taren O'Connor, and Richard Sobolewski

Senate Bill No. 9

An Act Concerning Connecticut's Energy Future

The Office of Consumer Counsel (OCC) has reviewed Senate Bill No. 9, also known as Governor's Bill No. 9, *An Act Concerning Connecticut's Energy Future*. OCC supports certain aspects of the Bill, but has some questions and concerns about other aspects.

Let me start by saying that OCC is deeply committed to supporting clean energy initiatives. We have worked on several clean energy procurements with DEEP, supported clean energy legislation, and have a significant role on the Energy Efficiency Board. We commend the Governor for continuing to support clean energy growth in Connecticut.

We need only look at the events of the last year -- devastating hurricanes Harvey and Irma, out of control wildfires, and here in our state, wild fluctuations in temperature, and record-setting warmth this winter -- to know that we have a moral imperative to mitigate global warming with all possible expediency.

At the same time, the resources of Connecticut consumers are far from unlimited. We have an extraordinarily high uncollectible bill problem right now, despite the fact that generation rates have been relatively lower over the last few years than they were for more than a decade. The total uncollectible expense is tens of millions of dollars per year.

A large set of customers must make difficult choices among paying electric bills or paying medical bills, grocery bills, and/or children's education bills. Within a few blocks of this hearing room there are thousands of citizens who struggle to pay their electric bills. We meet with these people throughout the state, we hear their stories, and we see the toll it takes on them and their families.

Given this situation, OCC maintains that we have to make hard choices about how we will spend each ratepayer dollar, and renewable energy and energy efficiency can be no exception. In short, we need the most renewables for every dollar to achieve our clean energy goals. Our comments thus reflect that sensibility.

Section 1 of the Bill seeks to ramp up the renewable portfolio standard in section 16-245a over time such that 40% of the electricity in the portfolio of a retail supplier or a wholesale supplier to standard service would need to be Class I clean energy by 2030 (typically, solar, wind, fuel cells, and some biomass). The present standard is 20% Class I by 2020. The 40% Class I by 2030 standard is the recommended level in the 2018 Connecticut Comprehensive Energy Strategy (CES) developed by the Connecticut Department of Energy and Environmental Protection (DEEP), although DEEP acknowledges that this is an "ambitious trajectory." (CES, p. 29)

To mitigate some of the costs of this policy and perhaps to drive renewable energy generation owners and developers to further cost efficiencies, Sections 2 and 3 would reduce what are known as alternative compliance payments (ACPs) for renewable portfolio standard compliance from the present level of 5.5 cents per kilowatt-hour (kWh) down to 4 cents per kWh beginning in 2021. To understand what this means, one has to understand that renewable portfolio standard compliance is today accomplished throughout New England by purchase in a regional market of what are known as renewable energy certificates or "RECs." Each REC represents just the renewable aspect of one megawatt-hour (MWh) or 1,000 kWh of electricity production, and the REC is traded and sold separately from the electricity itself. There are provisions in place to ensure that each REC is used only once and then cancelled. Retail electric suppliers and the wholesale suppliers who provide the electricity for the Eversource and United Illuminating standard service products have the compliance

obligation to provide RECs representing whatever is the applicable percentage for that year (for 2018 Class 1, 17%) times the number of MWh sold. The alternative compliance payment level essentially serves as a cap on the cost of the renewable portfolio standard. Whenever the regional market for Class I RECs is at or near the current 5.5 cent per kWh alternative compliance payment level, suppliers would make the economic choice to send in alternative compliance payments rather than buying those expensive RECs and incurring transaction costs. Under the revision in Sections 2 and 3, beginning in 2021, that "cap" on the potential ratepayer expense is reduced from 5.5 cents per kWh down to 4 cents per kWh.

It would be extremely difficult to determine with any level of certainty what this set of changes (ramping up to 40% Class 1 by 2030, but reducing the ACP level to 4 cents per kWh) would mean for ratepayer bills. One of the major complicating factors in such an analysis arises from the fact that alternative compliance payments are used for cost mitigation for ratepayers, whereas the revenue from REC purchases go to renewable energy generation owners or their assigns. So, for example, let us consider the potential difference in outcomes in, say, 2025. Because there is demand for RECs from solar and wind facilities across New England, and because the different states have different alternative compliance payment levels, it is possible that the market cost of Class I RECs could actually be above the 4 cent alternative compliance payment level. If the regional market price for Class I RECs in 2025 is, say, 4.2 cents per kWh, then massive numbers of electric suppliers would instead send in alternative compliance payments of 4 cents per kWh. If, on the other hand, Class I RECs can be purchased at 3.7 cents per kWh in the market, then it might be worth the transaction costs to buy RECs rather than sending in alternative compliance payments. This narrow difference in the market price drives an enormous cost difference for ratepayers. In the first scenario, ratepayers get a windfall refund of 4 cents per kWh from alternative compliance payments (but renewable generation owners get nothing). In the second scenario, RECs are purchased, and customers do not get money back from alternative compliance payments. In other words, we have a nearly 4 cent per kWh cost swing based on a narrow difference in market price.

In such a market environment, you could of course have volatile outcomes. When electric suppliers start sending in alternative compliance payments rather than purchasing RECs, that reduces state and regional demand for Class 1 RECs, which can cause the price to then drop below the 4 cent "cap." Moreover, other states may react by reducing their own alternative compliance payments, or by limiting or raising their own renewable portfolio standard levels. The "known unknowns" and "unknown unknowns" in terms of how numerous actions and reactions and technological developments will play out across the region renders it nearly impossible to get a good handle on what the proposed "40% Class 1 by 2030, but reducing the ACP to 4 cents per kWh" approach would cost versus, say, a "30% Class 1 by 2030 policy with no change to the alternative compliance payment" approach. The differential level of benefits in terms of carbon reduction or cleaner air would also be hard to calculate.

One way to try to get some handle on the potential cost of the proposed policy is to look at only the *maximum* potential cost of the policy. OCC will offer these figures based on a hypothetical usage of 100 MWh, to keep the math simple.

Policy Choice	No change to RPS or ACP (20% Class 1, 5.5 cent ACP)	RPS to 30% by 2030, 5.5 cent ACP	RPS to 30% by 2030, 4 cent ACP	RPS to 40% by 2030, 5.5 cent ACP	(Actual Proposal) RPS to 40% by 2030, 4 cent ACP
Max Cost of RECs to cover 100 MWh in 2021	\$1,100	\$1,155	\$840	\$1238	\$900
2022	\$1100	\$1210	\$880	\$1320	\$960
2023	\$1100	\$1265	\$920	\$1430	\$1040
2024	\$1100	\$1320	\$960	\$1540	\$1120
2025	\$1100	\$1375	\$1000	\$1650	\$1200
2026	\$1100	\$1430	\$1040	\$1760	\$1280
2027	\$1100	\$1485	\$1080	\$1870	\$1360
2028	\$1100	\$1540	\$1120	\$1980	\$1440
2029	\$1100	\$1595	\$1160	\$2090	\$1520
2030	\$1100	\$1650	\$1200	\$2200	\$1600
Total	\$11,000	\$14,025	\$10,200	\$17,078	\$12,420

The above figures are really illustrative only, and are intended to show only the relative, potential differences between the maximum costs of several policy options (for a hypothetically puny 100 MWh market). The primary message that OCC would like to

send through the above table is that the reduction of the ACP to four cents per kWh has the potential to significantly reduce and mitigate the cost impact of the otherwise aggressive proposed increase in the RPS to 40% by 2030. OCC would therefore not expect that this set of policy adjustments in Sections 1-3 will have substantial cost impacts until at least 2025, and at that point the legislature could make an interim adjustment if the costs impacts are getting too pronounced. OCC therefore supports Sections 1-3 so long as the proposed ACP reduction remains part of the package.

Section 4 provides for a phase out of net metering as of December 31, 2018, for new customers, except for those residential customers who are going through the residential solar investment program ("RSIP") conducted by the Green Bank, for the remainder of that program. There is full "grandfathering" for existing customers through 2039, so the investment expectations of existing customers are honored and protected. Section 5 replaces net metering with competitive procurement processes and for residential customers after expiration of the RSIP, a feed-in tariff. The processes will seek to have prices for procuring clean energy decline each year unless changed circumstances are present. The amount of clean energy to be procured would be \$35 million per year in 20-year tariffs, with procurement processes occurring for each of twelve years starting in 2019. Section 5 also organizes what are presently a disparate set of programs into a more coherent approach.

OCC welcomes and supports the approaches taken in Sections 4 and 5. It is certainly time to move to a more cost-effective approach than net metering for small clean energy facilities as currently provided for in section 16-243h. Net metering basically provides for netting of a customer's entire energy bill, other than the small fixed charge. All volumetric charges, including costs of distribution, generation, transmission, and other charges are forgiven, and, except for generation charges, are shifted to other customers. The overall cost to other ratepayers of the net metering approach is well over 20 cents per kWh when you factor in the cost shift and the programmatic costs and other available subsidies, as numerous DEEP documents have shown (see attached DEEP slide showing the costs of the ZREC and RSIP programs in 2016). Moreover, net metering does not drive competitive processes or cost reductions over time due to technological advances; in fact, as rates go up over time, as has been

the tendency due to inflation, storm costs, and other reasons, so indeed does the cost of net metering. Net metering was an effective, albeit blunt, instrument to get residential and small solar installations going in this state, but at this point, it has the risk of leading to major windfalls for solar developers and fails to drive us toward cost efficiency.

In comparison, according to the same attached DEEP slide, competitive processes for larger-scale renewables have driven amazingly rapid cost savings, with grid-side renewables purchased now at a low price of 8.48 cents per kWh for energy and RECs. We are not expecting residential or small-scale solar installations to get to that level, but moving in a lower-cost direction is absolutely essential. There is no reason for the general class of ratepayers to be subsidizing a solar installation at the rate of 24 cents per kWh through net metering if, through a more competitive framework, we can achieve that installation at, say, 12-14 cents per kWh. The difference is simply a windfall for solar developers, and you are sure to hear from many of them here today. But the reality is, being pro-clean energy requires that we get more cost-effective and get the greatest number of installations per dollar of expenditure. That may mean that the best solar installation firms thrive and the weaker ones die out, but that is inevitable if you want to achieve savings. Competitive processes and markets select some proposals and not others. DEEP since its inception has consistently and effectively sought to institute processes that will get us cleaner energy at prices that decline over time, and residential and small-scale solar installations should be no exception.

Some will criticize the phase-out of net metering on the basis of the *value* of small-scale solar installations. The value of solar is very much in the eye of the beholder and we have seen estimates across a broad range. Frankly, the value depends on estimates of transmission or distribution cost avoidance that are often over-generalized, as well as a range of potential values of the cost of avoidance of carbon emissions, etc. Leaving those issues aside, the most important thing to keep in mind is that the value of solar is essentially irrelevant to the determination of what we should pay for it. Regardless of whether competing estimates of the system value of a particular solar installation come in at 18 cents per kWh or 30 cents per kWh, the reality is that if we can achieve the installation at 12 cents per kWh, we should pay 12 cents

and not 24 cents per kWh through net metering and programmatic subsidies. Please refer again to the attached DEEP slide. In 2012, we procured grid-side solar at 17.02 cents per kWh, and in 2016, we procured it at 8.48 cents per kWh. The *value* of those two sets of projects are probably quite similar, in terms of zero emissions, cost avoidance, reducing peak usage, etc. But the *cost*, thankfully, is about half. Should we have continued to pay 17 cents per kWh because the value did not change? OCC thinks not.

Other critics of the net metering phase-out will argue that the proposed bill will adopt a "buy-all/sell-all" approach to solar output, and that this will involve two meters, forestall technological progress on local energy storage, etc. This, again, is beside the point, for at least two reasons. First, it is not absolutely clear to OCC that net metering would in fact be replaced with a buy-all/sell-all approach under the proposed statutory language, and PURA has some discretion in Section 5 as to how to design the new tariff, including the ability to modify the tariff based on changed circumstances. Second, the most important factor is that we can and must reduce the cost of net metering one way or the other. We can afford twice as much renewable energy at 12 cents per kWh as at 24 cents per kWh. There may be a variety of creative ways to achieve that without any downsides for technological progress. We should not allow side issues to result in keeping the current, expensive net metering approach in place, but rather should work together toward solutions that foster lower costs *and* technological progress.

Section 6 calls for the state to reduce its overall energy consumption by not less than 1.6 million MMBtu in each of the years from 2020-2025. There does not appear to be an enforcement mechanism. OCC has not seen evidence of whether or not this goal is realistic, or what impacts it may have, so OCC reserves judgment on Section 6.

Sections 7 and 8 seek to convert some of our energy efficiency efforts, which are presently funded through a 3 mill charge (Section 16-245m(a)(1)) and up to an additional 3 mill conservation adjustment mechanism ("CAM") (Section 16-245m(a)(1)), into an approach where the same total of six mills is invested partly through competitive procurement processes, with the remainder coming from the CAM. The present 3 mill charge is repealed in Section 24.

The primary goal of these Sections is apparently to protect the ratepayers from future "fund raids" where moneys collected from ratepayers for the purpose of energy efficiency are instead used for budget efforts. OCC shares this goal on behalf of the ratepayers it represents, and believes that Section 7 and 8 would provide some protection from future raids, although it is not absolute protection. Certainly a future budget bill could creatively change whatever legal protections are put in place today.

At present, the Connecticut Energy Efficiency Board ("EEB") (still referred to as the "Energy Conservation Management Board" in the statutes, although we would ask for a change in the statute to "Energy Efficiency Board") consists of a group of advisors who utilize their experience and expertise with energy issues to evaluate, advise, and assist the state's utility companies in developing and implementing comprehensive, cost-effective energy efficiency programs for homes and businesses. The membership on the Board appropriately reflects the variety of stakeholders interested in promoting energy efficiency as a key solution to Connecticut's ever-changing energy needs. OCC Rate Specialist Taren O'Connor is the present chair of EEB.

The EEB at present guides the distribution of efficiency funds collected from ratepayers and conducts independent, comprehensive evaluations of residential, commercial, and industrial energy efficiency programs. Additionally, the EEB offers technical expertise and prepares recommendations as needed to support the mission and goals of both DEEP and the Public Utilities Regulatory Authority (PURA). Finally, the EEB assists the executive and legislative branches of state government with the formulation of policies and legislation to advance energy efficiency in Connecticut in all sectors. The work of the EEB and its committees is assisted by a team of technical consultants who provide expertise in the specific areas for which the EEB has responsibility. The conduct of the business of the EEB is coordinated by the Executive Secretary. The EEB model has been working effectively for about 20 years.

The procurement approach outlined in Section 8 of the Bill would shift significant authority away from the EEB and diminish its role, and also raises other concerns for OCC. OCC does not object to the principle of shifting some of the present activity to a procurement model to provide stability of programs and avoid fund raids, but Sections 7

and 8 do not contain a limit on what share of the six mills could be invested through the procurement process. The role of the EEB in the procurement process is limited to "a representative of the Energy Conservation Management Board" being consulted as part of a process that is otherwise entirely run by the DEEP Commissioner. The Commissioner of DEEP is given very substantial power to direct tens or perhaps hundreds of millions of dollars in ratepayer efficiency investments, with the only standard being whether the proposed investment is, in the Commissioner's view, "in the best interest of ratepayers." (There are some factors associated with that determination, but the discretion remains.) PURA's review of projects is limited in time to 90 days and in scope to whether a proposal selected by DEEP is "prudent and cost effective," and would not include, for example, (i) a review of whether the selected portfolio is the optimal expenditure of ratepayer funds; or possibly even (ii) an opportunity for stakeholder input. It is also not clear that procured projects will be evaluated over time, as the current programs are, to ensure optimal results and to create lessons learned.

Thus, OCC is concerned that the procurement approach, which is uncapped as to the portion of the six mills that it will cover, is a potentially major shift away from the robust stakeholder processes and evaluation systems offered through EEB, and could lead to reduced accountability as to this significant expenditure of ratepayer funds. OCC has shared some of these concerns with DEEP, and appreciates that DEEP has engaged with OCC on this issue. OCC looks forward to working with EEB, DEEP, and other stakeholders to ensure that any shift to a procurement approach for expenditure of ratepayer-provided efficiency funds will continue to have a robust role for EEB, appropriate accountability protections, sensible and practical standards for selection of projects, stakeholder processes, and effective evaluations.

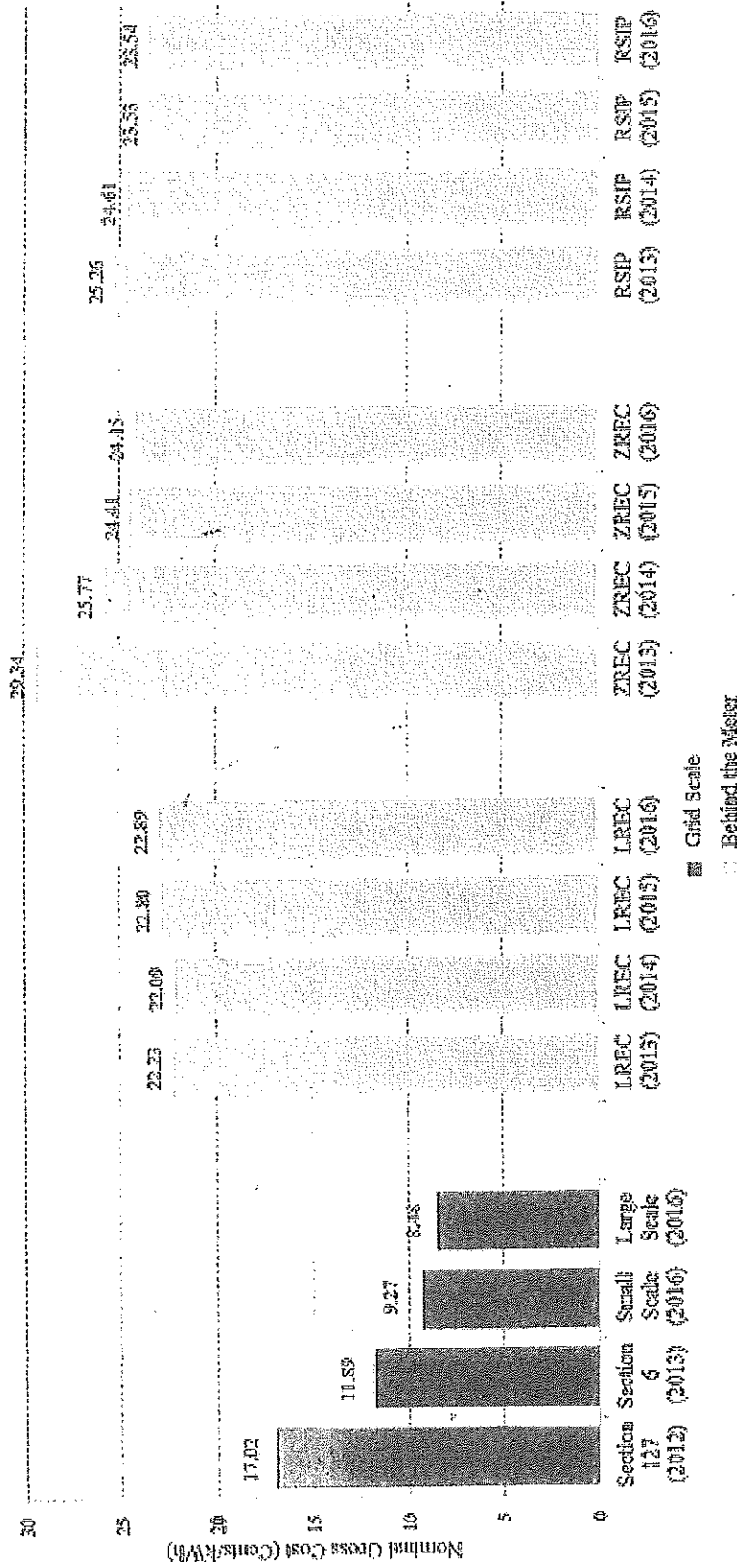
Section 9 of the Bill calls for increased ratepayer support of the Green Bank (referred to therein as the Clean Energy Fund) in the amount of two mills per kilowatt hour from July 2019 until June 2025, presumably in part because of the fund raid from last year. OCC maintains that any additional funds from ratepayers, including funds to make up for amounts lost to budgetary assistance, should be shared *pro rata* between

the Green Bank and the Energy Efficiency Fund, since both areas are of high priority to achieve the State's goals.

The remaining portions of the Bill appear to consist of conforming changes.

E.1.3 Achieve a sustainable balance between behind-the meter and grid-scale

Cost of Clean Energy Programs, Behind the Meter and Grid Side
(nominal dollars, 2012-2016)



- The Grid Scale includes the levelized cost of grid scale projects selected in DEEP procurements and programs.
- The LREC/ZREC includes the levelized 20 year average net metering rate plus the REC contract.
- The RSEP includes the levelized 20 year average net metering rate plus the RSIP subsidy (does not include leased systems).

