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**Testimony of David Sutherland – Director of Government Relations
Before the Energy and Technology Committee – February 27, 2018**

Regarding Bill 9 – AAC CONNECTICUT'S ENERGY FUTURE

On behalf of The Nature Conservancy's Connecticut Chapter, I would like to express:

- our support for Sections 1 – 3 of Bill 9, which would expand the State's current Renewable Portfolio Standard; and
- our opposition to Sections 4 and 5, which would eliminate net metering for small-scale solar arrays.

At the core of these and other issues in Bill 9 is the question of to what extent solar, wind, and other renewable energy sources should be incentivized. When considering appropriate incentives for these generation sources, it should be stressed that, as noted in the article *Incentives for Energy Production*, on the website of the Nuclear Energy Institute:

“All electric generating technologies have received various levels of financial incentives from the federal government. For decades the government has provided incentives to support research, development and deployment of energy technology.”

The article describes several government incentives for new nuclear plants. A 2015 report by the US Treasury Department, *United States – Progress Report on Fossil Fuel Subsidies*, notes that “the United States government has identified eleven Federal fossil fuel production tax provisions” and provides a chart of those tax incentives. Over the past century, these energy industries have also received various State government incentives.

The universes of those who either directly or indirectly (*e.g., renters*) pay electric bills and those who directly or indirectly pay some forms of taxes overlap sufficiently to render insignificant, for the purposes of this argument, the distinction between who – taxpayers or ratepayers - is paying the incentives for any particular energy source. All energy sources and many other industries have received incentives because society determined that development of those industries was critical for various reasons.

The solar industry is still comparatively quite new in comparison to other energy industries, such as fossil-fuel, nuclear, and hydropower, which provide electric power. Therefore, any adjustments to its incentives should be done very cautiously and strategically so as not to unduly and unfairly disrupt a new, but successful, industry, or shortchange the industry at an early stage in its history, in comparison to other power industries.

RENEWABLE PORTFOLIO STANDARD

We strongly support the extension of Connecticut's Renewable Energy Portfolio and maintain that its requirements for renewable energy sourcing should be increased by at least two percent per year for a 40% requirement for Class I renewables by 2030.

Whether or not the Millstone power plants are likely to close in the very near future, we know that one or both of them are likely to close at the end of their current license periods, in 2035 and 2045. Various other energy sources will be needed to replace the emissions-free power that Millstone provides to Connecticut and the region. All of those sources or any fossil-fuel sources carry disadvantages and significant cost. Large-scale hydro-power will likely have to continue to play a role, but the challenges that Massachusetts has faced in the last month in securing transmission of hydropower highlights the environmental and cost concerns entailed with that source. Expansion of capacity for natural gas would also be very costly. It is critical for Connecticut to be as aggressive as possible in pursuing Class I renewable energy through an increased annual requirement in the RPS

NET METERING

Sections 4 and 5 of this bill, to which we are strongly opposed, would repeal net metering for any new residential and small solar installations. We agree that a review and revision of solar metering and incentives, based on a comprehensive study of all the costs and benefits of, and other factors affecting net-metered (*“behind the meter”*) and grid-scale solar arrays, is warranted. We maintain, however, that an elimination of net metering is too radical and harmful a step to take, especially in the absence of such a study.

Net metering is a system in which a solarized building’s electric meter tracks both power flowing into the property from the power grid as well as excess power flowing from the solar array out into the grid. The house pays for electricity it consumes from the grid and is credited for the excess power it sends back to the grid. Net metering has been a crucial factor in increasing the use of rooftop solar.

In repealing net metering, these sections of Bill 9 would create what is called a “buy all-sell all” system in which solar homes would have one meter through which they would buy all of the power they use from the electric utility and a second meter through which they would send all of the power their solar panels produce out to the grid. They would, in effect, not be using the power that their own solar arrays produce.

Experience has shown that this type of two-meter system significantly decreases the deployment of solar and results in the loss of significant numbers of jobs in the industry. Nevada repealed its net metering law in 2015, and lost 32% of its jobs in the solar industry. The outcry over the retroactive feature of the state’s repeal and the devastating impact it had on the industry caused its legislature in 2017 to reinstate net metering, both for existing and future installations, and further strengthen the assurances that solar owners could use the power that their own systems produce.

A major impetus for many attacks on net metering is the perception that it results in a shifting of costs for maintaining the electric grid from solar customers to non-solar customers. Many of these claims, however, are not based on a comprehensive review of all the costs and benefits of small-scale solar. A 2016 Brookings Institute report, *Rooftop solar: Net metering is a net benefit*, reviews and compiles reviews of over a dozen Value of Solar studies done by utility regulators, academic institutions, and non-profit organizations. While noting a few studies which showed that net metering results in a cost to non-solar electric customers, the report states:

“what does the accumulating national literature on costs and benefits of net metering say? Increasingly it concludes— whether conducted by PUCs, national labs, or academics — that the economic benefits of net metering actually outweigh the costs and impose no significant cost increase for non-solar customers. Far from a net cost, net metering is in most cases a net benefit—for the utility and for non-solar rate-payers.”

A subsequent op-ed piece published by Brookings, by the Executive Director of the Institute for Electric Innovation, takes issue with the earlier report. It notes at least one study not included in the earlier report and a subsequent correction of another study cited in the report. This op-ed, however, in its own analysis, restricts itself to the direct costs of a solar building’s grid use, makes only passing reference to fixed charges paid by solar customers, and does not include any benefits to the grid or electric system provided by roof-top solar.

The Brookings report and op-ed piece at the very least demonstrate the need for States, before they embark on completely eliminating net metering, to conduct or commission **comprehensive** studies to assess the costs and benefits of distributed energy, including a comparison of grid-scale and net-metered arrays.

While grid-scale solar deployment in our state is absolutely essential to meet our needs for renewable energy, Connecticut, as one of the most densely populated states in the country, has fewer suitable sites for commercial-scale solar than many other states. Our remaining farms and large, minimally fragmented forests are proportionately more important than they are in states with far greater amounts of such resources. We also have less wind than many other states. One resource we have in greater proportion to our geographic size than many other states is rooftops. Installing as many solar arrays on as many roofs – residential, commercial, and institutional - as we can, while also promoting well-sited grid-scale solar, is critical to avoiding the increasing controversies we are seeing regarding the siting of large-scale solar, and critical to creating an energy system for the future.

Many observers predict that the price of residential and small-scale battery storage will decrease significantly over the next several years. Widespread use of such storage capacity would be a major boost to a more flexible, resilient energy system in our state, and would address one of the primary disadvantages of solar power, its intermittent nature. Under a buy-all, sell-all system, however, a solar home would be forced to purchase power from the grid at full retail price to charge their battery, rather than being able to charge it with the power produced on their own roof. Thus, the most compelling reason for installing storage would be eliminated.

Retaining net metering and charging PURA to conduct a comprehensive study of the all the costs and benefits of various energy sources, and to use that study to develop a tariff on the excess power that a behind-the-meter solar array exports to the grid would be a far better approach than eliminating net metering.