

Industrial Energy Consumer Group Testimony in Opposition to LD 1350, *An Act To Expand Maine's Clean Energy Economy*

(April 20, 2021)

Good morning, Senator Lawrence and Representative Berry, members of the Energy, Utilities, and Technology Committee. My name is Benji Borowski. I am an energy attorney at Preti Flaherty, representing Industrial Energy Consumer Group (IECG). IECG is an association of large energy consumers advocating for efficient climate mitigation while assuring low costs and reliability for consumers.

LD 1350 is a well-intentioned bill that IECG opposes only because it lacks a specific purpose and structure that will ensure Maine achieves its climate goals. Climate change is a seemingly intractable problem that has created fear and anxiety, which in turn have prompted emotional reactions. Now, more than ever, we must overcome the emotions to create a deliberate strategy, based on reason, to solve the climate crisis.

What should we do?

LD 1350 would continue to status quo of arbitrarily procuring renewables for their own sake. As we move to beneficial electrification, we must seek to procure renewables to meet certain uses. For example, to get 60% of Maine off oil with heat pumps, we need affordable, reliable resources to produce energy when it is dark and cold, and often very windy. Onshore wind and soon offshore wind may best meet our specific heating need. To get off gasoline with electric vehicles (EVs), we need affordable, reliable resources to produce energy when are charging our cars. Solar, eventually paired with storage, may best meet our specific transportation need.

A new procurement paradigm should seek lowest cost resources to meet a specific need tied to decarbonization goals. The PUC has the expertise to both define “need” and tailor procurements to make beneficial electrification the climate solution.

Why should renewable procurement meet specific heating and transportation needs?

Consistent with most experts, IECG urges Maine to adopt the strategy of beneficial electrification. For more information, please see Dr. Silkman’s report “*A New Energy Policy Direction for Maine: A Pathway to a Zero-Carbon Economy by 2050*,”¹ the Maine Climate Council’s Report “*Maine Won’t Wait, A Four-Year Plan for Climate Action*,”² and the Efficiency Maine Trust’s report “*Beneficial Electrification: Barriers and Opportunities in Maine*.”³ Please also see IECG’s website, www.getmaineclimateright.com, where IECG explains its climate solution.

¹ https://www.competitive-energy.com/s/A-New-Energy-Policy-Direction-for-Maine_Silkman_PDF.pdf.

² https://climatecouncil.maine.gov/future/sites/maine.gov.future/files/inline-files/MaineWontWait_December2020_printable_12.1.20.pdf.

³ https://www.energymaine.com/docs/EMT_Beneficial-Electrification-Study_2020_1_31.pdf.

Maine is far too reliant on oil and gasoline for heating and transportation. Nearly no progress has been made in cleaning up these sectors. Despite this widely known fact, we continue to pile costs onto electric ratepayers, essentially trying to squeeze every last molecule of carbon dioxide out of the electric grid, regardless of the cost and reliability impacts. It feels like the right thing to do, and we are desperate to do something, but this is exactly backwards.

Electrification is the solution because the electric grid is the most efficient way to decarbonize all sectors. For electrification to be beneficial, however, electricity supply must be: (1) affordable; (2) reliable; and (3) sustainable (essentially, lower emissions). A climate “solution” that lowers emissions while increasing costs or decreasing reliability is not a solution at all. Due to climate fear and anxiety, this concept is difficult to swallow at first.

Don’t take IECG’s word for it. I urge you to review the Rocky Mountain Institute’s report titled [It’s Time to Incentivize Residential Heat Pumps](#), which concluded that heat pumps provide a substantial emissions benefit today—with the existing electricity mix—in each of the continental United States except Wyoming and Utah, two states dominated by coal. In Maine, there is a nearly 60% emissions reduction compared to heating with natural gas, the proxy fossil fuel used for the analysis. In reality, the 60% of Maine homes heating with oil (the highest in the U.S., by far), would experience an even deeper emissions cut. Let me reiterate, a heat pump replacing oil heat could reduce emissions by more than 60%, today, in Maine.

How is that true if New England gets half its electricity from natural gas generators? First, New England’s grid is among the cleanest in the nation. Oil and coal generation are nearly phased out. Nuclear, hydro, biomass, wind, and solar make up the other 50%. Second, we have a robust grid with little congestion and few constraints. By far most important, however, is the fact that heat pumps are about 2 to 5 times more efficient than burning oil in your home. On an equivalent basis, an oil boiler or furnace can use 5 times the energy of an electric heat pump to produce the same amount of heat. Heat pumps present an affordable opportunity to use less energy and create fewer emissions, today.

Similarly, EVs are about 3 times more efficient than gasoline engines. Albeit currently less affordable than heat pumps, EVs also present the opportunity to use less energy and create fewer emissions, today.

Heating and transportation should be the primary focus of future renewable procurements because there is a huge emissions benefit on the table right now. While increasing renewables is important, it is not necessary to reduce emissions today. Renewables are a tool, not an end. Procuring arbitrary amounts and types of renewables, at arbitrary times, without considering specific needs, costs, and reliability will reduce Maine’s technical, financial, and political ability to meet its climate goals. Quite simply, Mainers will not convert to heat pumps and EVs at scale with high prices and frequent outages.

Therefore, IECG respectfully suggests recalibrating renewable energy procurements to target heating and transportation as part of a beneficial electrification strategy to get the biggest bang for the climate buck.

For example, an RFP could specifically seek to electrify Maine's heating load to displace oil. Resources can compete to produce the most renewable electricity when we need heat, subject to cost and reliability parameters. Land-based wind that has a high winter capacity factor (30-40%) may fare better than solar because the sun sets at 4 p.m. during the winter. In the near future, offshore wind, with an even higher capacity factor (55%+), could displace the majority of oil heat in Maine. Additional RFPs could be designed to match renewable production to the charging demand of EVs. Solar and eventually storage might fare much better in such an RFP.

The critical concept is that renewable procurements should be designed and sequenced to ensure that electrification is in fact beneficial and achieves Maine's climate goals. IECG respectfully urges the Committee to consider renewable electricity a tool and its procurement a task that should be done in the context of a climate strategy. The Public Utilities Commission has the specialized expertise necessary to conduct targeted RFPs that will ensure that renewables can cost effectively and reliably reduce emissions from the heating and transportation sectors. As heating and transportation is electrified over time, strategically increasing renewables will only improve the current emissions benefits of heat pumps and EVs. In the medium- and long-term, as energy storage and offshore wind become increasingly economic, Maine can fully decarbonize its electric mix at a reasonable cost while strengthening our grid and our economy.

Thank you. I am happy to answer any question you might have.