

Joint Standing Committee on Energy, Utilities and Technology

L.D. 1766 – An Act To Transform Maine’s Heat Pump Market To Advance Economic Security and Climate Objectives

May 23, 2019

Chair Lawrence, Chair Berry, and members of the Committee, my name is Jim Cohen of Verrill Dana, LLP, and I am here today on behalf of Emera Maine to testify *in support of* LD 1766. Emera Maine has long been a proponent of efficient heat pumps, and we applaud the Governor’s proposal to prioritize the installation of heat pumps in public and private housing in Maine.

Emera Maine: background regarding heat pumps.

- **Heat Pump Pilot Project (2011).** In 2011, Emera Maine helped bring forward legislation establishing a *pilot program* that allowed investor-owned T&D companies to provide, offer rebates, or provide financing options for customers to obtain efficient electric heat pumps, or efficient electric thermal storage units. The program was capped at 500 customers per utility, and was required to sunset on December 31, 2013. Under this authority, Bangor Hydro (now part of Emera Maine) developed *a heat pump pilot program* that offered on bill financing and rebates for heat pumps in collaboration with Efficiency Maine. The program jump started the market for heat pumps in Maine. It was evaluated by an independent third party, overseen by the Public Utilities Commission, and considered a success. As a result, Efficiency Maine now offers rebates for heat pumps statewide.
- **Expansion of Pilot Program (2013).** In the *Omnibus Energy Act of 2013*, the required sunset for the utility pilot program was removed, the 500 customer cap was removed, and the language related to financial incentives was broadened.
- **Pilot Program made Permanent (2016).** In 2016, Emera Maine worked with legislators to further modify the program through LD 1558 so that it would become permanent. That bill passed and became law.

Efficiency Maine Trust. Over the last number of years, Efficiency Maine has offered rebates to incentivize the installation of efficient electric heat pumps. Efficiency Maine Trust has also evaluated the relative efficiency of heat pumps as compared to other heating sources. A copy of this analysis is attached as Attachment 1.¹

Heating Sector. As noted below, the heating sector in Maine is primarily fueled by oil, propane, and natural gas—the burning of which creates emissions.² Electric heating decreases those emissions. *See* Attachment 2.

Energy Source Used for Home Heating (share of households)	Maine	U.S. Average	Period
Natural Gas	7.7 %	48.0 %	2017
Fuel Oil	61.3 %	4.7 %	2017
Electricity	6.7 %	39.0 %	2017
Propane	11.4 %	4.7 %	2017
Other/None	12.8 %	3.6 %	2017

¹ <https://www efficiencymaine.com/docs/Heating-Cost-Comparison-Chart.pdf>

² <https://www.eia.gov/state/data.php?sid=ME>

Beneficial use of electricity: an opportunity for the heating sector. In order for Maine to achieve its ambitious climate goals, Maine's heating sector needs to transition to fuels that emit fewer greenhouse gases. In the heating sector, this would require a shift to electric heat pumps. In order to encourage building owners to move to electric heat, it is important that the total price of electricity be competitive with other fuel sources. Promoting heat pump installation will drive a positive feedback loop of emissions and rate savings.

Beneficial use of electricity: an opportunity to reduce rates through installation of more heat pumps.

Currently, only about 5% of Emera Maine's residential customers (or 6,900) are on our special heating rate. What would happen to rates if this percentage increased to 20% of our residential customers, which equates to an additional 20,000 heat pumps? The short answer is that, because our electric grid is below capacity, the new usage would help reduce the per unit cost of operating the grid; and the additional revenues associated with 20,000 new heat pumps would reduce overall rates by approximately \$6 million per year. Another way to look at the savings is this: for every 1,000 additional heat pumps on our system, the system-wide rate reduction equals about \$300,000 per year; LD 1766's 100,000 heat pump target equates to roughly \$30 million in annual rate savings.

Conclusion. Thank you, and we hope this information is helpful as the Committee moves ahead. We would be pleased to answer any questions you may have.

ATTACHMENT 1

Heat pumps offer potential annual savings of over \$1,000 dollars compared to oil heat, and close to \$600 dollars compared to natural gas.

Annual Heating Cost Comparison Chart

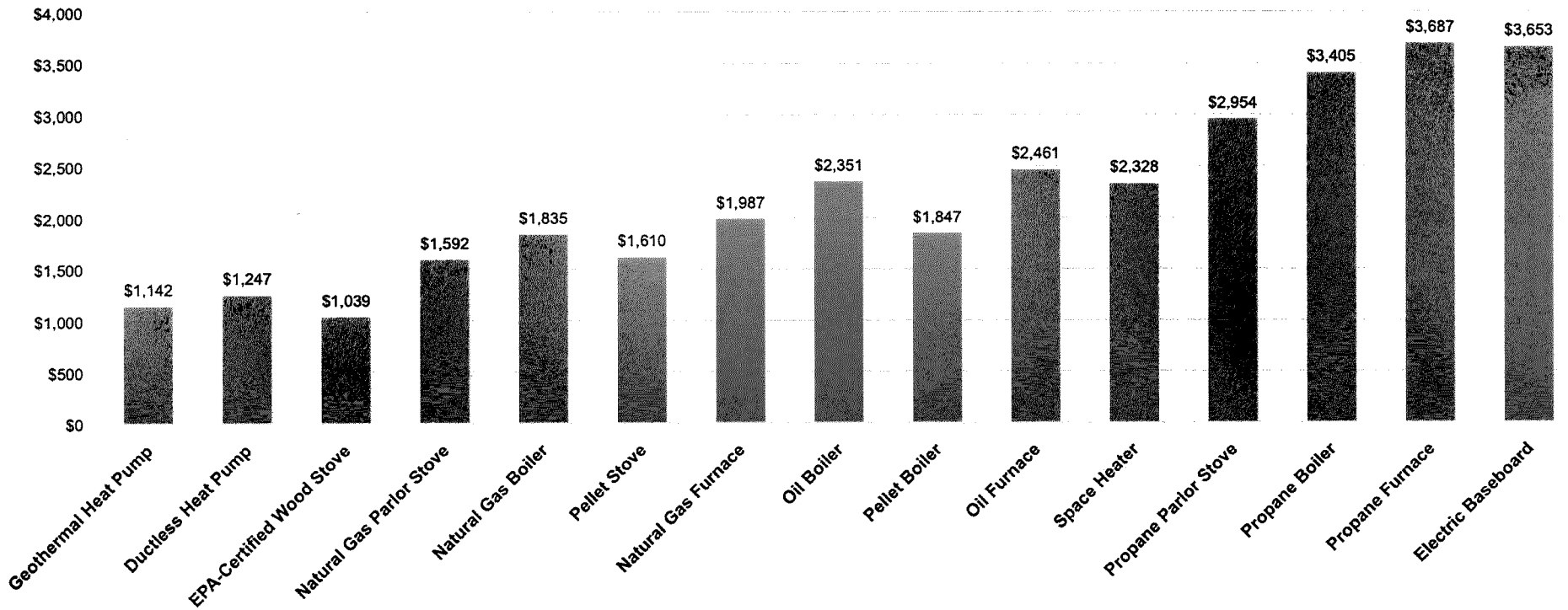
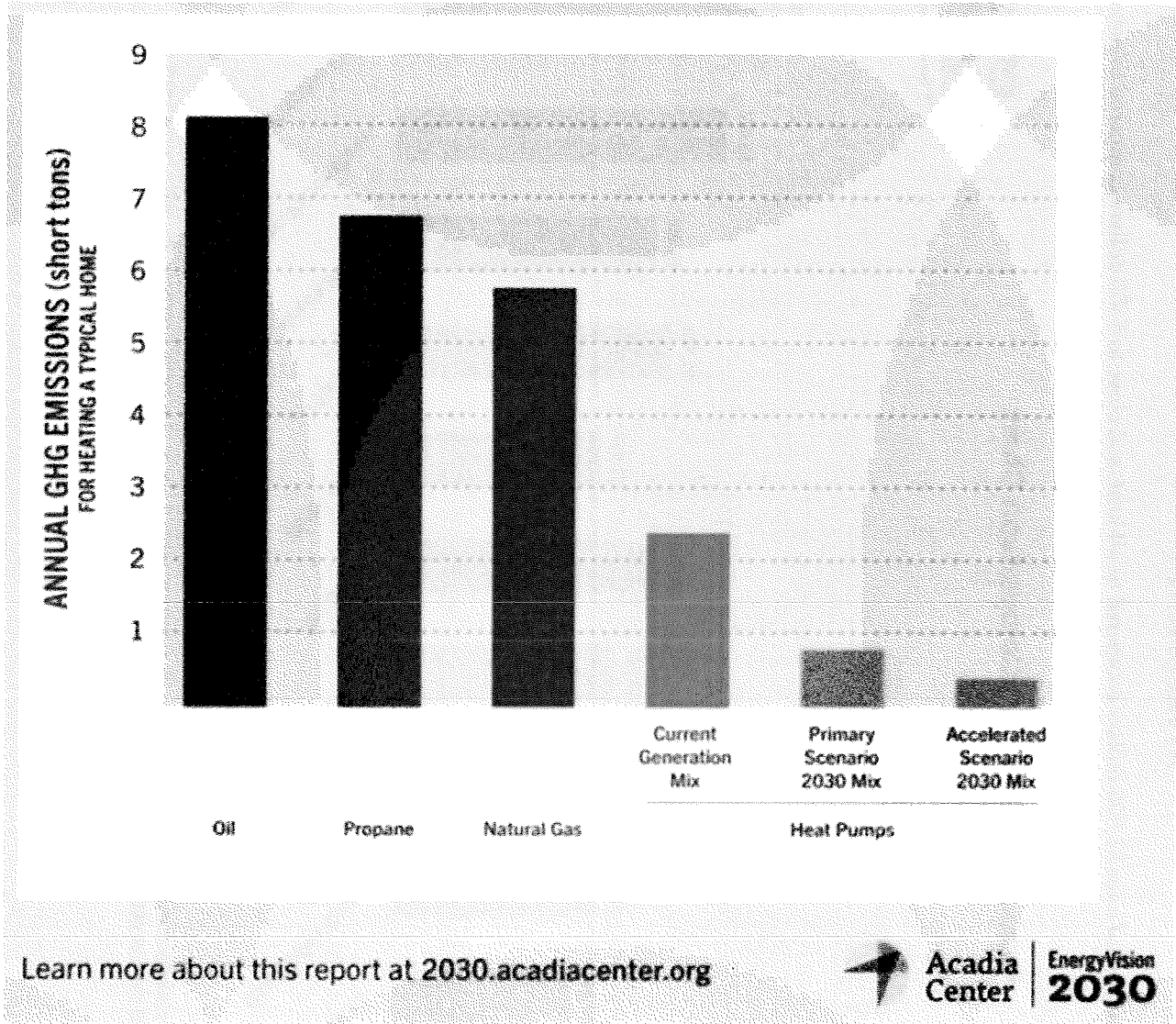


Chart provides a comparison of annual heating costs for common system types and fuels. Chart uses recent pricing, typical efficiency values, and a home heating load equivalent to 820 gallons of oil. Comparison chart values updated 4/5/19. Visit efficiencymaine.com for more details and information.

Attachment 2

Relative Greenhouse Gas Emissions of Heating Sources³



The chart demonstrates that heat pumps, powered by the current mix of electricity supply, emit less than half of the greenhouse gas emissions emitted by other traditional heating fuels. If future supply includes greater mixes of renewable sources, heat pumps will reduce emissions relative to traditional heating sources by over 90% or more.

³ Efficiency Maine Trust, Presentation at the E2Tech Ductless Heat Pump Forum, (Jan. 17, 2019) (https://e2tech.org/resources/Documents/E2Tech%20DHP%20Forum%20_FINAL.pdf).