CLEAN ENERGY CANADA

Submission to the Ontario Ministry of Energy and Electrification on proposed Beneficial Electrification programming

Date: December 4, 2024 | **Prepared by:** Jana Elbrecht, Policy Advisor

Clean Energy Canada is supportive of rate-funded programming through IESO that would support households to electrify, including through the installation of heat pumps, heat pump hot water heaters, and EV charging as recognized forms of beneficial electrification.

In supporting beneficial electrification, the government should:

- Recognize heat pumps for both space and water heating as well as charging for electric vehicles as forms of beneficial electrification under the Affordable Energy Act;
- Ensure coordination between the different initiatives supporting distributed energy resources, including the Energy Efficiency Frameworks and guidelines for Non-Wire Alternatives, as well as any new programs enabled under the new Affordable Energy Act;
- In addition to direct funding, consider mandating electric utility companies to offer on-bill financing for beneficial electrification.

Electrified household technologies including air source heat pumps, heat pump water heaters and electric vehicles present a great opportunity for Ontarians to save energy, emissions, and money.

Heat pumps operate two to five times more efficiently than a natural gas furnace or water heater. Clean Energy Canada modelled the impact of replacing a natural gas furnace and central air conditioner with a cold climate air source heat pump in a typical single-detached house in the GTHA. We found that this beneficial electrification would annually save: 61.7 GJ in total energy use; $217 in household energy bills; and 4381 kgCO2e of emissions (a 94% reduction).

For the same house, we modelled a switch from a natural gas water heater to a heat pump water heater and found: 14.2 GJ savings in annual energy use; $62 per year in energy bill savings; and 989 kgCO2e in emissions savings (a 95% reduction).

The savings could be even greater for a household that electrifies completely, cutting an additional $310 in annual gas utility account charges.

We also found savings in energy, emissions, and cost for typical households living in a townhouse or low–rise apartment building.

Electric vehicles can save Ontarians thousands of dollars per year in gas costs. An electric SUV, for example, can save a family $25,605 over a ten-year ownership period when compared to an equivalent gas-powered vehicle, according to Clean Energy Canada's recent analysis.

Ontarians want access to these savings solutions. In a survey conducted in the GTA (results available upon request), we found that more than half of respondents had a positive impression of heat pumps, would like to get a heat pump at some point or already have one. Learning that heat pumps are two to five times more efficient than gas furnaces made 52% of respondents even more inclined to install a heat pump.

54% say they are likely to consider installing an efficient (heat pump) electric hot water heater and the same share indicated they are inclined to buy an EV as their next vehicle.

However, 77% of respondents see installation cost as one of the primary barriers to installing a heat pump and government rebates were identified by respondents as best addressing these concerns.

Beyond direct household savings, household clean energy solutions like EVs, heat pumps, smart thermostats and electric water heaters can contribute to demand response solutions, keeping the total cost of Ontario's grid as low as possible. Air-to-air heat pumps can function as efficient cooling systems, which will be increasingly necessary in Ontario's hot summers, and minimize summer peak loads. EVs, heat pumps and smart thermostats, paired with time-of-use pricing or demand response programs can further reduce peaks on both cooling and heating days and move more demand to off-peak hours, allowing the grid to better integrate variable renewables and deliver cost-effective electricity to consumers.