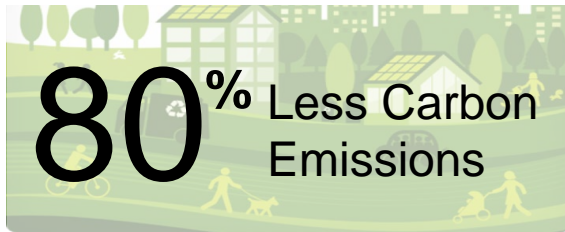
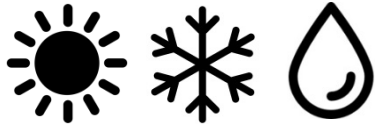




OCTOBER 16, 2017

Opportunity of Electricity to Reduce Oil Consumption in Maine

Heat Pump Opportunity



Significant Opportunity for Heating

- Environmentally beneficial
 - Reduces carbon emissions up to 80%
 - Almost 2/3 of Maine's net electricity generation from renewables
- Cost saving opportunities
 - 3x more efficient to heat than oil
 - 2x more efficient to cool than modern a/c units
- Leverages an underutilized infrastructure
 - Downward pressure on electric delivery rates
 - Natural gas by wire

Heat Pump Success

- Emera Maine (Bangor Hydro)
 - Heat Pump Pilot Program 2013 for rebates and financing
 - Established discounted delivery heating rate
 - 500 participants
- Efficiency Maine
 - Rebates for first and second units up to \$750
 - 20,000 ductless heat pumps installed in past 3 years
 - 400+ registered installers state-wide
- City of Bangor
 - 10% of Heat Pump costs up to \$500
- Positive customer feedback

Challenges to Further Adoption

- Upfront cost of capital investment
 - Alternative option for low or fixed income consumers
- Motivation
 - Current low price of oil
 - Mobility for renter or frequently relocated profession
- Education
 - Use as primary heat source for maximum savings
 - Behavioral changes with approach to heating strategies
 - Effective placement of heat pumps
- New construction

Presentation References

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- Emera Maine Heat Pump Pilot Program – Final Report
<http://www.emeramaine.com/media/41789/emera-maine-heat-pump-pilot-final-report-nov-2014.pdf>
- Emera Maine Heat Pump Rate Petition - MPUC Docket 2015-00090