Why Heat Pumps are like Bulletproof Vests

Jeremy Kraft & Ellen Steiner

2015 IEPEC Conference — Long Beach, California
When the program launched, customers faced numerous barriers to installing ductless heat pumps in Maine.

- Limited awareness of technology
- Customer skepticism
- Lack of information regarding capable contractors
- Large up-front costs
- Limited availability to capital
The objective of the Pilot was to determine whether a program could drive demand for heat pump technology.

Program Overview
Program Overview

From an enrollment perspective, the program was a huge successful. Past efforts have had difficulty enrolling participants.

May 2010 – Dec 2011

Efficiency Maine: 55 participants in 18 months

April 2011 – Oct 2012

Bangor Hydro: 18 participants in 18 months

Oct 2012 – Aug 2013

Pilot Program: 1000 participants in 10 months
Estimated Impact

Participants saved, on average, $622 dollars in heating costs per year.

$932  Average avoided cost of fuel oil
- $310  Average cost of heat pump use
$622  Average savings for participants
## Variations in Usage

In-home metering found large variations in usage and subsequent cost savings.

<table>
<thead>
<tr>
<th>Usage Pattern</th>
<th>Operational Characteristics</th>
<th>Thermostat Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (less than 300 kWh/month)</td>
<td>Manually operated their heat pump, turning it on or off when needed throughout much of heating season</td>
<td>Less than 70°</td>
</tr>
<tr>
<td>Moderate (300 - 900 kWh/month)</td>
<td>Allowed thermostat to control heat pump so that it ran automatically, but relied on pre-existing heating sources to heat other living household spaces</td>
<td>70°-72°</td>
</tr>
<tr>
<td>High (over 900 kWh/month)</td>
<td>Allowed thermostat to control heat pump so that it ran automatically, but adjusted pre-existing heating sources</td>
<td>74° or higher</td>
</tr>
</tbody>
</table>
Conclusion

Customer education regarding **strategic use of their heat pumps** is key to maximizing cost savings.
Thanks!

Jeremy Kraft
jjkraft@emiconsulting.com

Ellen Steiner
esteiner@emiconsulting.com

Jess Chandler
jchandler@emiconsulting.com