Programmable Thermostat Program Proposal

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Why change the program?

• Available studies indicate no savings from programmable thermostat (PT) installation. Some studies indicate slight increased consumption.

• Enhanced education by EPA, manufacturers, and program sponsors may increase effective use of set backs/set ups.

• Little differentiation between E* PT’s and conventional PT’s.
Current Revision Status

- Version 1.0 effective April, 1995
- Draft 1 of V2.0 was distributed in mid-2003
- Stakeholder meeting October, 2003
- On-going discussions with industry on Draft 2 of V2.0
Problems Labeling Programmable Thermostats

• Consumer confusion over savings from PT installation vs. proper use
• PT’s can jeopardize “right-sized” A/C performance
• E* focuses on retail sales, yet vast majority of Tstat sales to HVAC contractors with no end user input
• No meaningful E* differentiation:
  – E* doesn’t dictate user interface – no silver bullet for consumer friendliness, E* and non-E* have improved interfaces
  – When we choose less aggressive setbacks – necessary for consumer acceptance
Field Realities

- 5 field studies show no statistical PT savings over households using non-programmable Tstats

- PT’s unlikely to result in more conservative settings than manual set backs / set ups
<table>
<thead>
<tr>
<th>Organization</th>
<th>Investigators</th>
<th>Location &amp; Year</th>
<th>Sample size</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern California Edison</td>
<td>Paul Reeves, Jeff Hirsch, Carlos Haid</td>
<td>CA 2004</td>
<td>N/A</td>
<td>Energy savings depend on behavior and can be + or -</td>
</tr>
<tr>
<td>Energy Center of Wisconsin</td>
<td>Monica Nevius, Scott Pigg</td>
<td>WI 1999</td>
<td>299 homes</td>
<td>No significant savings. PT’s don’t change behavior.</td>
</tr>
<tr>
<td>Connecticut Natural Gas Corporation</td>
<td>David Cross, David Judd</td>
<td>CN 1996</td>
<td>100 homes</td>
<td>PT’s cause no significant behavior change.</td>
</tr>
<tr>
<td>BPA / PNNL</td>
<td>Craig Conner</td>
<td>NW 2001</td>
<td>150 homes</td>
<td>No significant behavior change / savings.</td>
</tr>
<tr>
<td>Florida Solar Energy Center</td>
<td>Danny Parker</td>
<td>FL 2000</td>
<td>150 homes</td>
<td>No savings, some increases.</td>
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</tbody>
</table>
Bottom Line - Summary

• No savings from installation

• Those that setback before, no savings -- those that didn’t setback, no behavior change

• Only the behavior saves, not the ‘box’
EPA Proposal

• Transition program from equipment performance requirements to an educational campaign.

• Model campaign on other successful ENERGY STAR educational campaigns (i.e. Home Sealing, Home Performance, Change a Light, and Power Management).

• Evolve logo to educational graphic for manufacturers, retailers, and program sponsors to use on ANY Tstat. Use of graphic subject to participation in campaign.

• Target consumers:
  – with PT’s or manual Tstats
  – who don’t already program or manually set back
    • ~50% of households at night
    • ~7% of households during day (not at home)
Mock Up Only

Use this product to save energy, money, and the environment:
- Set back/set up when you're asleep
- Set back/set up when no one is at home
- A difference of 5 degrees can save you up to ___% per year on your heating and cooling costs

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Proposed Graphic Use

• Applications of the educational graphic would be determined to optimize impact on consumer behavior

• Possible applications:
  – Product packaging
  – Website
  – User manual
  – On product,
  – In-store POP,
  – Advertising,
  – Training materials
  – Other marketing collateral

• Stakeholder input important!
Possible Campaign Elements

• EPA collaborates with stakeholders to develop consistent messaging promoting set back behavior

• EPA integrates messaging into Cool Your World Campaign, and First Frost media outreach

• Participation in campaign by:
  – Manufacturers
  – Retailers
  – Efficiency Sponsors
## Proposed Timeline

<table>
<thead>
<tr>
<th>Activity</th>
<th>06</th>
<th>07</th>
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</thead>
<tbody>
<tr>
<td>Program evolution vetted at Jan. 11th Industry Meeting</td>
<td>11</td>
<td></td>
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<tr>
<td>EPA collaborates with stakeholders to draft graphic, messaging, and campaign</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPA works with stakeholders to finalize graphic, messaging, and campaign</td>
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<td></td>
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<tr>
<td>Mfrs decide on participation in campaign</td>
<td></td>
<td></td>
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<tr>
<td>EPA launches educational campaign via press release and explains the transition from equipment performance to education</td>
<td>1</td>
<td></td>
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<tr>
<td>All products and product literature transition from cert mark to educational graphic</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Participating mfrs begin using graphic and messaging</td>
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Next Steps

1. Letter announcing 30 day formal comment period for manufacturers, retailers, and program sponsors

2. 30 day period for EPA decision on revising/proceeding with proposal

3. If proposal moves forward, hold workshop on developing the educational campaign, messaging, and graphic with stakeholder input, this Spring
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