Overview of Residential Water Heater Programs

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ACEEE Hot Water Forum
Program administrators formed CEE

- To reach **binational markets**
- **Accelerate market uptake** of efficient products and services
- Which achieves **lasting public benefit** of energy efficiency
CEE Today

- CEE brings together 100 program administrators serving all or part of 45 states and 7 provinces
- CEE program model was recognized by the EPA with the 2009 Climate Protection Award
- CEE is a member-driven nonprofit, governed by a Board of Directors from member organizations
Approach to the Residential HVAC market before CEE
Results in more efficient products available and installed correctly

Efficiency Program
Efficiency Program
Efficiency Program
Efficiency Program

Initiative Tiers
Energy Star®

Manufacturers (AHRI)
Distributors (HARDI)
Contractors (ACCA)
Technician Certification Bodies (NATE & BPI)

Results
Product Availability
HVAC Directory
Quality Installation Spec
Verification Protocols
ENERGY STAR® Quality Installation Program
Insight From the 2015 CEE Water Heater Program Summaries
Program Summary Scope

- Current program information for water heaters and related efficiency measures
- Survey of 83 CEE member programs
  - Covering 38 US states and Canadian provinces
  - Gas, electric and dual fuel programs
- A representative sample of programs from publicly available information
  - Not an analytical study or evaluation of water heater programs
  - Does not capture measure uptake or participation
Overview of Program Measures

- **Storage**: 60%
- **Tankless**: 50%
- **EPACT**: 30%
- **Heat Pump**: 40%
- **Indirect**: 20%
Gas Storage Water Heater
Rebate Levels by EF

- Tier 1
- Tier 2

Energy Star
Tier 1
Tier 2
Gas Tankless Water Heater
Rebate Levels by EF

Tier 1

ENERGY STAR

Rebate 1
Rebate 2
Gas EPACT Water Heater Rebate Levels by TE

- Commercial Tier 1
- Commercial Tier 2

- .90 TE
- .95 EF
Heat Pump Water Heater
Rebate Levels by EF

ENERGY STAR

No CEE Specification
Heat Pump Water Heater
Tier 1 Rebate Amounts Offered
Gas Storage Water Heater
Tier 1 Rebate Amounts Offered
Gas Tankless
Tier 1 Rebate Amounts Offered
Gas EPACT
Tier 1 Rebate Amounts Offered

- $125
- $150
- $200
- $300
- $350
- $500
Heat Pump Water Heater
By Year Introduced

Year Program Began

- 2014
- 2013
- 2012
- 2011
- 2010
- 2009
- Prior to 2009

Number of Responses

0 2 4 6
Heat Pump Water Heater Rebates by Recipient

- Upstream (Manufacturer/Distributor) (3)
- Midstream (Retailer) (1)
- Downstream (Customer) (20)
## Water Heater Market Penetration

<table>
<thead>
<tr>
<th>Product Category</th>
<th>2014 Units Shipped (thousand units unless otherwise stated)</th>
<th>2014 Estimated Market Penetration</th>
<th>Specification Revisions Affecting Future Market Penetration (Version - Effective Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Televisions</td>
<td>35,102</td>
<td>99%</td>
<td>Version 7.0 – October 30, 2015</td>
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<tr>
<td>LCD</td>
<td>34,284</td>
<td>100%</td>
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<tr>
<td>OLED</td>
<td>13</td>
<td>34%</td>
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<tr>
<td>Plasma</td>
<td>588</td>
<td>55%</td>
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<tr>
<td>TV Combination Units</td>
<td>217</td>
<td>13%</td>
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<tr>
<td>Uninterruptible Power Supplies</td>
<td>3,790</td>
<td>N/A</td>
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<tr>
<td>Vending Machines</td>
<td>54</td>
<td>22%</td>
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<tr>
<td>Ventilating Fans</td>
<td>3,434</td>
<td>N/A</td>
<td>Version 4.0 – October 1, 2015</td>
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<tr>
<td>Water Coolers</td>
<td>1,223</td>
<td>55%</td>
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<tr>
<td>Water Heaters</td>
<td>N/A</td>
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<tr>
<td>Gas Storage</td>
<td>216</td>
<td>5%</td>
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<tr>
<td>Gas Tankless</td>
<td>416</td>
<td>N/A</td>
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</tr>
<tr>
<td>Heat Pump</td>
<td>46</td>
<td>1%</td>
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<tr>
<td>Solar</td>
<td>3</td>
<td>N/A</td>
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</tbody>
</table>
A Couple of Final Thoughts

Many programs are struggling to meet cost-effectiveness challenges
- High unit and install costs, low fuel prices

Low program participation rates as well
- Emergency replacements continue to hinder market transformation
- Contractor education and outreach are key
- Many programs are interested in going upstream

New minimum standards require additional considerations, and program revisions
Contact

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