Structured Discussion Part I
ENERGY STAR CAC/ASHP Equipment Specification

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The Next Frontier for HVAC

How do we capture significant energy savings, provide value to market actors, and keep program delivery manageable?

Tighten Technical Specs

Address Quality Installation
Capturing Energy Savings

<table>
<thead>
<tr>
<th></th>
<th>Savings Range/Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>14 SEER</td>
<td>7%</td>
</tr>
<tr>
<td>Sizing*</td>
<td>2-10%</td>
</tr>
<tr>
<td>Refrigerant charge*</td>
<td>12.5%</td>
</tr>
<tr>
<td>Airflow*</td>
<td>8.1%</td>
</tr>
<tr>
<td>Duct Leakage*</td>
<td>16.8%</td>
</tr>
</tbody>
</table>

What is the most cost-effective combination of options for most homes? Can they be implemented effectively?
Defining Value

**Manufacturer**
- Differentiation of products
- Brand & consumer loyalty
- Sales/profit

**Contractor**
- Differentiated services
- Sales/profit
- Consumer loyalty
- Reduced call backs
- Referrals

**Consumer**
- Energy/$ savings
- Good investment
- Reliability/durability
- Comfort

**EPA**
- Energy/carbon savings
- Cost effective for consumer
- Reasonable program admin.
- Brand loyalty

**EEPS**
- Peak savings
- Sustained/quantified savings
- Reasonable admin.
- Cost-effective programs
- Satisfied customers
## Equipment Specification Options

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>From Strawman</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Split</td>
<td>Packaged</td>
</tr>
<tr>
<td>SEER</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>EER</td>
<td>11</td>
<td>10.5</td>
</tr>
<tr>
<td>HSPF</td>
<td>8</td>
<td>7.6</td>
</tr>
</tbody>
</table>
Do we Need an Equipment Spec?

• **YES** – We can still capture some energy savings, address peak, include some other useful criteria, and provide a platform for marketing.
  – What is value to consumers?
  – Will it stay true to the ENERGY STAR brand promise?

• **NO** – We don’t need it anymore. SEER 14 isn’t cost effective for enough consumers. Installation should be the focus.
  – What would we lose?
  – What is impact on manufacturers, contractors, utilities?
Options for an Equipment Spec

• Option I - Increase to **SEER 14**
  – Is this cost effective? Where?
  – Do EEPS have data on cost effectiveness?
  – What is value to manufacturers? contractors?

• Option II – Keep **SEER 13** but increase EER and HSPF
  – Peak value to utilities is maintained
  – Any value to manufacturers? contractors?
  – Relevance to consumers?
What About Additional Elements?

- Evaporator access for purposes of measurement and maintenance
- TXV for sustained performance
- On-board diagnostics

*What are the challenges with each?*
*What is the value of each?*