NASEO State Appliance Standards Efficiency Webinar
January 22, 2020  3:00 pm EST

Moderator

*Rodney Sobin*, Senior Program Director, NASEO

Speakers

*Marianne DiMascio*, State Policy Manager, Appliance Standards Awareness Project

*Howard Wiig*, Energy Analyst, Hawaii State Energy Office

*Dr. Sarah Vorpahl*, Senior Energy Policy Specialist, Washington State Energy Office

Q&A
NASEO State Appliance Standards Efficiency Webinar
January 22, 2020  3:00 pm EST

Logistics:

- All attendees are muted.

- Please use the GoToWebinar question box to ask questions or “raise hand” to be recognized and unmuted.

- Webinar recording and slides will be posted.

- Access via NASEO webpage (www.naseo.org); go to “EVENTS,” then “Past Webinars”
State Appliance Efficiency Standards
Webinar – A Growing Policy Tool for 
Energy and Water Savings

Marianne DiMascio, State Policy Manager
Appliance Standards Awareness Project
January 22, 2020
Appliance Standards Awareness Project

- **ASAP** organizes and leads a broad-based coalition effort that works to advance cost-effective appliance, equipment, and lighting efficiency standards

- Steering committee includes consumer groups, utilities, state government, environmental groups, and energy-efficiency groups

- Founded in 1999
What have 7 states already done and another 10 plan to do?

7 states have adopted appliance standards

- California
- Colorado
- Hawaii*
- New York*
- Nevada*
- Vermont
- Washington

*May pursue additional standards

10 more in process or considering

- Arizona
- Connecticut
- DC
- Illinois
- Maine
- Maryland
- Massachusetts
- New Jersey
- Oregon
- Pennsylvania
- Rhode Island
- Maybe a couple more...
Appliance efficiency standards – the basics

Minimum energy- and water-efficiency levels for:
- Appliances
- Equipment
- Lighting
- Plumbing products
Federal and State Standards

• At the national level, standards apply to the manufacture and import of products

• At the state level, to their sale or installation in most cases

• In general, federal standards preempt state standards
Federal/State Interplay

• National
  – Congress establishes initially and the Department of Energy updates them

• State
  – In most states, the legislature sets state standards; some states have regulatory boards e.g. California Energy Commission

• Interplay
  – States often lead the way: Most of the 60+ federal standards started as state standards
Why some states are setting standards

• **To meet state goals**
  – Standards help states meet energy efficiency, climate, and other goals

• **Consumer savings**
  – Consumers, businesses, municipalities save money on utility bills

• **Limit need for new power plants and pipelines**
  – Reduced need for new energy and water infrastructure

• **Taking the lead**
  – States picking up the slack while DOE is falling behind
  – Missed 21 deadlines

• **Jobs**
  – Local economies boosted when consumers have more spending money
2020 Appliance Standards Model Bill

• ASAP prepares a model bill annually
• Based on *States Go First* report*; updated for 2020
  – Standards for 18 products
  – Standards for non-preempted light bulbs
  – Provision to backstop federal standards (about 60)

*ACEEE/ASAP, 2017
Where do state standards come from?

- California standards
- ENERGY STAR
- WaterSense
- Industry Standards
What’s in the 2020 model bill?
A sampling of high-sales volume bulb types that are not covered by federal standards and free from preemption

<table>
<thead>
<tr>
<th>Several types of incandescent bulbs</th>
<th>Shatter resistant</th>
<th>3-way</th>
<th>High-lumen output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many decorative medium screw base bulbs within certain wattages, most less than 40 watts</td>
<td>Medium-base globe shaped</td>
<td>Medium-base candelabra</td>
<td>T-shaped bulb ≤ 40 watts or ≥ 10 inches</td>
</tr>
<tr>
<td>Certain Incandescent reflector bulbs</td>
<td>Bulged or elliptical reflectors rated 50 watts or less (BR30, BR40, ER30, ER40) or 65 watts (BR30, BR40, ER40)</td>
<td>Reflectors rated 45 watts or less (R20)</td>
<td></td>
</tr>
<tr>
<td>Reflector lamps less than 2.25 inches in diameter</td>
<td>MR 16</td>
<td>MR16 medium base</td>
<td></td>
</tr>
</tbody>
</table>
How does a state decide which products?

- “We’ll go for the whole package”
- “We just want the top energy savers”
- “We are drought-prone”
- “We don’t want to be the first state”
- “We only want California products”
- “We don’t want any opposition”

We have a table for that...
Savings

• ASAP provides savings analysis
  – Annual and cumulative savings (through 2035)
• All the recommended standards are cost effective for the consumers and businesses that purchase these products
• Potential utility bill savings significantly outweigh any additional cost of more-efficient products
Sample cumulative savings analysis: Cropped table for Tennessee

Cumulative savings estimates for: Tennessee

<table>
<thead>
<tr>
<th></th>
<th>Electricity (GWh)</th>
<th>Natural gas (TBtu)</th>
<th>Water (billion gallons)</th>
<th>NOₓ (tons)</th>
<th>SO₂ (tons)</th>
<th>CO₂ (thous. MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air compressors</td>
<td>106</td>
<td>-</td>
<td>-</td>
<td>9.9</td>
<td>56.6</td>
<td>48.0</td>
</tr>
<tr>
<td>Air purifiers</td>
<td>1,332</td>
<td>-</td>
<td>-</td>
<td>124.9</td>
<td>709.4</td>
<td>582.5</td>
</tr>
<tr>
<td>Commercial dishwashers</td>
<td>100</td>
<td>2.4</td>
<td>3.3</td>
<td>116.9</td>
<td>53.0</td>
<td>170.6</td>
</tr>
<tr>
<td>Commercial washers</td>
<td>10</td>
<td>6.0</td>
<td>-</td>
<td>273.6</td>
<td>5.2</td>
<td>323.4</td>
</tr>
<tr>
<td>Urinals</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Water coolers</td>
<td>196</td>
<td>-</td>
<td>-</td>
<td>18.3</td>
<td>104.2</td>
<td>88.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9,365</strong></td>
<td><strong>16</strong></td>
<td><strong>121</strong></td>
<td><strong>1,610</strong></td>
<td><strong>4,981</strong></td>
<td><strong>5,000</strong></td>
</tr>
</tbody>
</table>

Assuming a compliance date of 2022 for all the recommended standards. Totals may not sum due to rounding.

More products ....
Sample annual economic savings analysis: Cropped table for Tennessee

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Potential annual utility bill savings (million 2018$)</th>
<th>Net present value savings (million 2018$)</th>
<th>Benefit-cost ratio</th>
<th>Payback period (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In 2025</td>
<td>In 2035</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air compressors</td>
<td>0.2</td>
<td>0.7</td>
<td>2.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Air purifiers</td>
<td>5.2</td>
<td>13.5</td>
<td>97.8</td>
<td>no cost</td>
</tr>
<tr>
<td>Commercial dishwashers</td>
<td>2.5</td>
<td>10.2</td>
<td>59.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Urinals</td>
<td>0.5</td>
<td>1.9</td>
<td>12.4</td>
<td>no cost</td>
</tr>
<tr>
<td>Water coolers</td>
<td>0.7</td>
<td>1.9</td>
<td>13.5</td>
<td>no cost</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>101</strong></td>
<td><strong>299</strong></td>
<td><strong>1,930</strong></td>
<td><strong>10.8</strong></td>
</tr>
</tbody>
</table>

More products ....
How do states implement

• Currently, states can use CA database, Energy Star, or WaterSense tables
• Scoping study underway for a multi-state database
• USCA and NYSERDA to fund the development of the database
• Open to all states; likely to have a fee for participating states
ASAP can assist states

- Work with state, regional, national organizations and advocates, utilities and state officials
- Coordinate cross-state communication
- Organize calls, webinars, meetings
- Provide technical assistance, analysis, and materials
Questions?

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19.260 RCW and 194-24 WAC

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SENIOR ENERGY POLICY SPECIALIST

01/22/2020
We strengthen communities

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BUSINESS
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COMMUNITY FACILITIES

CRIME VICTIMS &
PUBLIC SAFETY

COMMUNITY
SERVICES
2019 Legislation

2nd Substitute House Bill 1444
Effective July 28, 2019
Appliance standards – Chapter 19.260 RCW

• Created in 2005
• Amended in 2006 and 2009
• Amended in 2019 by HB 1444
House Bill 1444 – Appliance standards

• Establishes energy and water efficiency standards for multiple products
• Establishes a design requirement for electric storage water heaters
• Compliance based on date of manufacture, not date of sale
House Bill 1444 – Appliance standards

- **Water products**
  - Faucets
  - Showerheads
  - Spray sprinkler bodies
  - Urinals
  - Water closets
  - Water coolers

- **Lighting products**
  - High color rendering index (CRI) fluorescent lamps
  - General service lamps

- **Commercial products**
  - Fryers
  - Dishwashers
  - Steam cookers

- **Other products**
  - Air compressors
  - Computers and computer monitors
  - Residential ventilating fans
  - Uninterruptible power supplies
  - Portable air conditioners
  - Electric storage water heaters
Efficiency standards based on existing standards and methods

• California Energy Commission Title 20
• EPA Energy Star
• EPA Water Sense
• Federal standards not yet in effect
Other provisions in Washington law

• Rulemaking authority to:
  • Adopt backstop standards for federally covered products
  • Update to reflect new versions of reference standards
  • Accelerate effective date of high-CRI lamps to match CA

• Report products to Legislature when preempted
• Authority to rely on certification programs and testing of other states
• Repeal outdated water standard from 1991
Commerce is updating rules – 194-24 WAC

• Delete old products
• Add products from 2019 legislation
• Update administrative and enforcement sections
  • Testing and certification provisions
  • Labeling and listing requirements
  • Penalty provision
• Rules for 17 products adopted January 2020
Electric Storage Water Heaters
Electric storage water heater design requirement

• Applies to electric storage water heaters
  • Input rating 12 kW or less
  • 40-120 gallon rated storage volume
  • Supplies water at 180 degrees or less

• Phased implementation adopted in rule
  • Jan. 1, 2021 for heat pump water heaters
  • Jan. 1, 2020 for electric resistance water heaters

• Requires CTA-2045, or equivalent, communication port
Why did Washington choose to lead on this standard?

• Behavioral and technical data from pilot in PNW supported inclusion of design requirement into 2019 legislation (see: CEC docket 19-OIR-01)

• Technology supports electric grid of the future by enabling utility programs to manage water heating loads

• Supports flexible grid as we add more renewables toward our state 100% clean energy standard (Clean Energy Transformation Act)

• Commerce supports modular, open standards that are both good for consumers and allow for innovation
Thank you!

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Q&A
Thank you!