



2017 ENERGY STAR Products Update

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SWEEP Regional Workshop, Tempe AZ**



Revisions and New Product Specifications

With over 70 product categories that can earn the ENERGY STAR, EPA works hard to keep specifications up to date and maintain the value of our investment.

- Revisions:
 - 2 effective in 2017
 - 8 will be completed in 2017
 - Plan to complete 7 in 2018
- New products
 - 5 coming on line in 2017
 - Plan to work on 2 for 2018; others of interest as well

Find all you need to know about specifications at:

www.energystar.gov/specifications



ENERGY STAR Commercial Products –

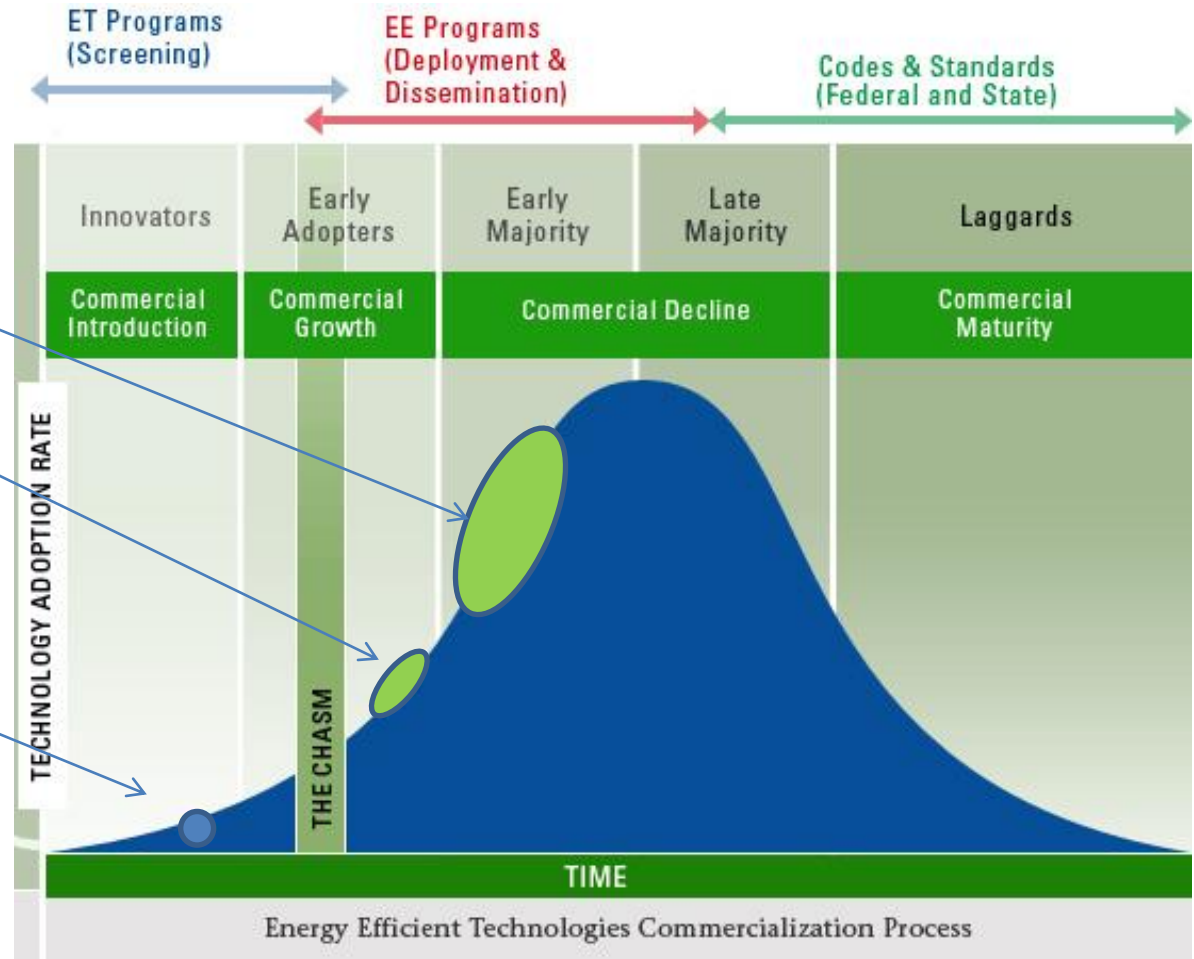
Note: Not all product categories listed are exclusively for commercial use, but all could be used in commercial settings.

- **Lighting & Fans**
 - Commercial Light Fixtures
- **Commercial Appliances**
 - *Commercial Clothes Washers*
 - Vending Machines
 - Water Coolers
- **Office Equipment**
 - *Computers*
 - Data Center Storage
 - Displays
 - *Enterprise Servers*
 - *Imaging Equipment*
 - Small and Large Network Equipment
 - *Uninterruptible Power Supplies*
 - VoIP Phones
- **Heating & Cooling**
 - *Light Commercial HVAC*
 - Commercial Boilers
- **Water Heaters**
 - Commercial
- **Miscellaneous**
 - *Laboratory Grade Refrigerators and Freezers*
- **New Products Under Development**
 - Medical Imaging Equipment



Advancing Adoption of Efficient Technologies

- 1. ENERGY STAR
- 2. ENERGY STAR Most Efficient
- 3. ENERGY STAR Emerging Technology Award





New: Connected Thermostats



- V1.0 finalized and effective Dec 2016
 - EPA’ s first specification based on energy savings as demonstrated with field data
 - Currently 8 certified products from 5 brands
- 2017 and 2018 work
 - Improve the metric to recognize wider variety of savings strategies, tie more closely to metered savings (multi-year project)
 - Allow installations with staged and variable capacity equipment to be part of evaluating savings

https://www.energystar.gov/products/connected_thermostats/partners



New: Electric Vehicle Chargers

- **V1.0 Completed** Dec 2016
 - Addresses standby losses
 - Sets criteria for network connectivity
- **Working now on V2.0**
 - Add fast charge



Optional Criteria

- V1.0 includes optional connected criteria
 - Open Standards
 - Description of Demand Response capability

www.energystar.gov/products/other/evse



ENERGY STAR Most Efficient 2018

- Clothes Washers
- Refrigerators
- Dishwashers
- Clothes Dryers
- Ventilating Fans
- Heat & Cooling
- Ceiling Fans
- Computer Monitors
- Windows
- **New!** Dehumidifiers



www.energystar.gov/mostefficient



Emerging Technology Award Categories

- **2016-2017 Innovative Refrigerant Systems**
 - Energy efficiency gain of 5% or greater
 - Efficiency gains are isolated to the refrigerant or components needed to support the refrigerant system
 - Refrigerant with Global Warming Potential (GWP) < 15
 - Refrigerant has been approved for use in the U.S. market, listed as acceptable by EPA's Significant New Alternatives Policy (SNAP) program
- **2017 Solid-State Refrigeration**
 - Solid-state cooling as an alternative to a compressor
 - Lab Refrigeration –15% beyond the new ENERGY STAR V 1.0 criteria
- ***NEW: 2018 Room Air conditioners with Efficient Variable Output.***

<https://www.energystar.gov/about/awards/energy-star-emerging-technology-award>



Service and Savings With ENERGY STAR & Connectivity

- ENERGY STAR **optional criteria** leverage the national platform that utilities can rely on and consumers look for, bringing together interested partners and stakeholders.
- ENERGY STAR criteria provide consistent definitions and approaches, a **consistent** set of starter functionality, an emphasis on **open standards, low standby power, test methods for DR functionality**.
- ENERGY STAR is a **trusted resource** that can help consumers find these connected products and identify the benefits they offer.



What is Next: ENERGY STAR and Smart Home

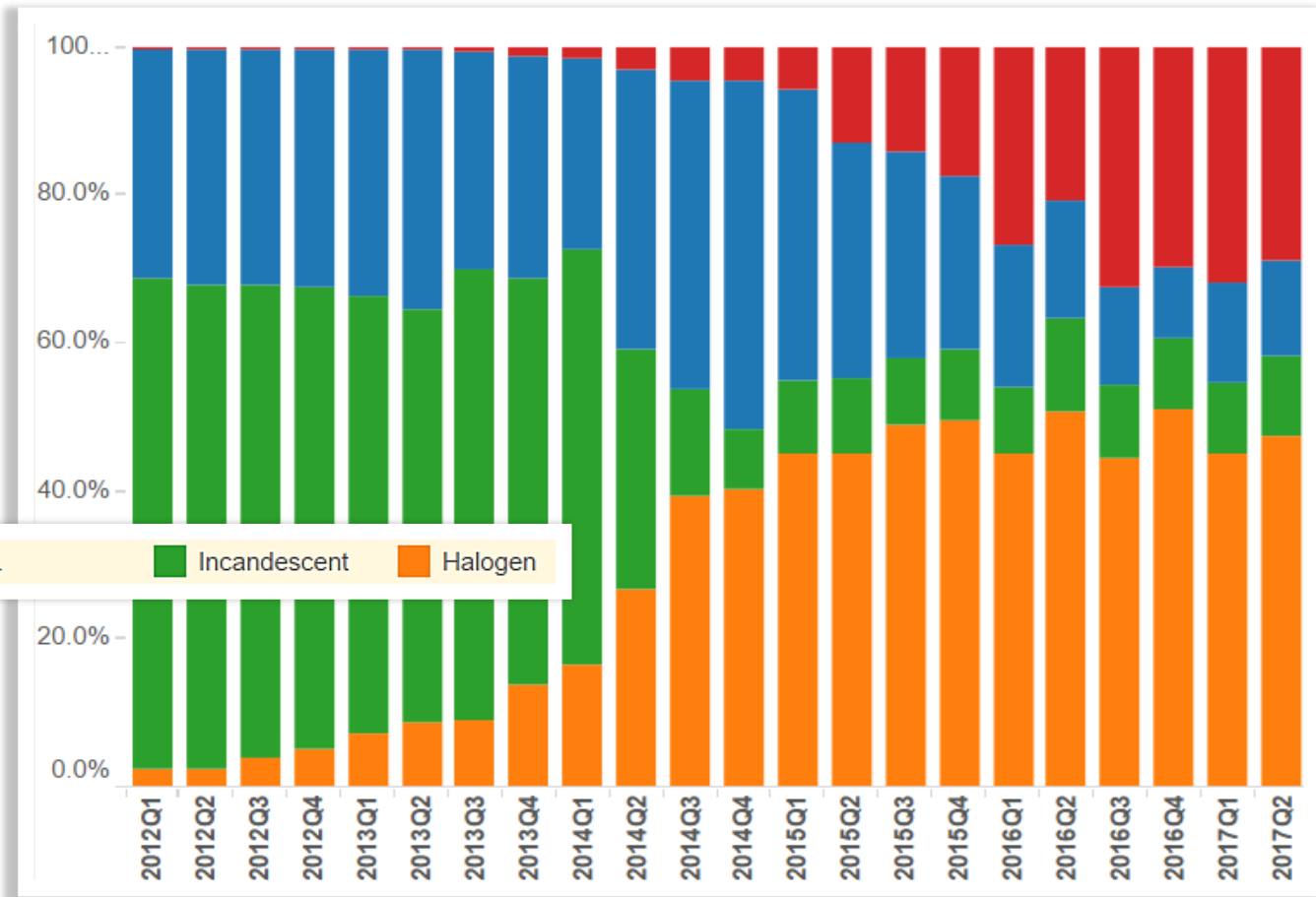
- Update connected criteria as specifications are revised as appropriate.
 - Participating in industry standardization efforts on Air source heat-pumps, water heating, Central Air Conditioning
- Leverage the unique position of the ENERGY STAR program as a trusted resource for partners and consumers in the context of the smart home.
 - Facilitate sharing of resources on smart home efficiency among our partners
(www.energystar.gov/connectedwebinars)
 - Help consumers use smart home products to manage energy use.



NEMA A Lamp Indices

Market Penetration (in %)

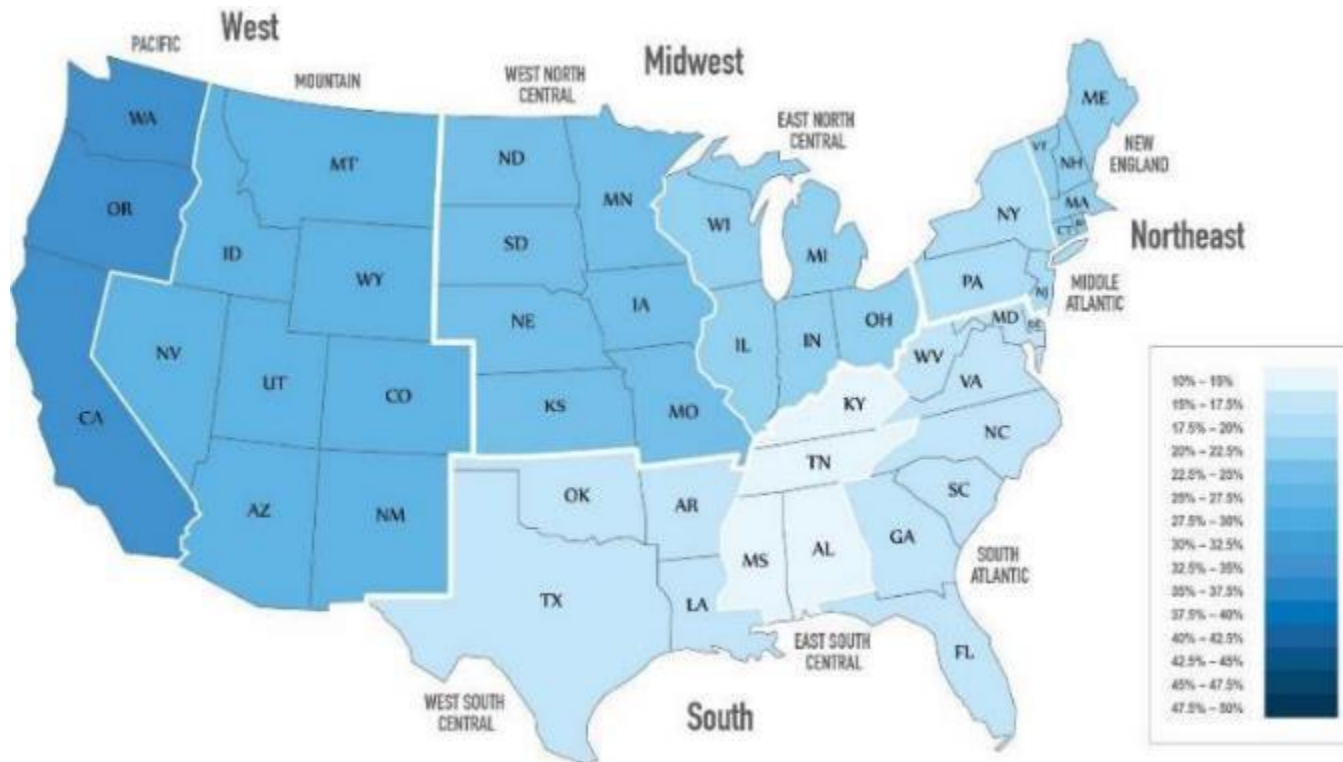
Last 4 quarters of reported shipments appear to show trends stabilizing



<http://NEMA.org/Intelligence/Pages/Lamp-Indices.aspx>

New report, “The Light Bulb Revolution” www.energystar.gov/bulbrevolution

2015-2016 LED Bulb Sales (as a Percentage of other bulb technologies sold)



[Remaining Opportunities for Residential Energy Efficiency Programs: Lighting](#)



Dryers—particularly Most Efficient Dryers offer big savings

- 28% savings over Federal Standard
- 200 – 500 kWh Per year
- Market Share – 1%



Water Heating—particularly HP water heaters offer significant savings

Heat Pump Water Heaters
Annual savings = 2020 kWh

Barriers:

- First Cost
- Purchasing Process
- Installation
- Market Share - 1%



www.energystar.gov/products/water_heaters/heat_pump_water_heaters



Program delivery models

- ENERGY STAR is helping to educate (and in some cases facilitate) mid-stream and other program models
 - Distributors of HVAC, Water Heaters
 - ENERGY STAR Retail Products Platform
 - Best practice examples for Commercial Food Service equipment
 - Tools to support traditional and e-commerce platforms

Distributor-Focused Midstream Programs: The Key to Unlocking Residential Water Heater and HVAC Savings

Recently, energy efficiency program administrators have provided incentives up the supply channel to a “midstream” market actor – the wholesale distributor – resulting in sales doubling, and in some cases, increasing ten-fold for ENERGY STAR certified water heaters and HVAC. Click on the links below to be introduced to the basic concepts behind distributor-focused midstream programs, review the remarkable increases in program participation, understand why the programs are so successful, and view best practices gathered from program.

How It Works: Understand the fundamentals of shifting incentives to a distributor

Astonishing Results: Examine surges in participation at distributor-focused midstream programs

Why it Works: Understand how the market chain benefits when incentives target distributors

Best Practices: Learn the right way to run a distributor-focused midstream program

Midstream Resources

EXPERT ADVICE

Contact us at midstreamdistributor@energystar.gov to set up a call with ENERGY STAR and the Technical Advisory Group. The group includes:

- AO Smith
- CLEAResult
- Energize CT
- Energy Solutions
- Energy Trust of Oregon
- NEEA
- SDG&E
- VEIC

The ENERGY STAR Retail Products Platform

Who Is Participating





In 2016, its first pilot year, three retailers, and eight program sponsors representing 11 states and almost 18 percent of the U.S. participated in the ESPPP. ENERGY STAR certified models in five product categories were promoted by program sponsor-labeled signage in almost 700 stores.

In 2017, the product portfolio was expanded to include two additional products: clothes washers and refrigerators. New sponsors and the addition of Nationwide Marketing Group will expand coverage to approximately one-third of the U.S. market by the end of 2017.



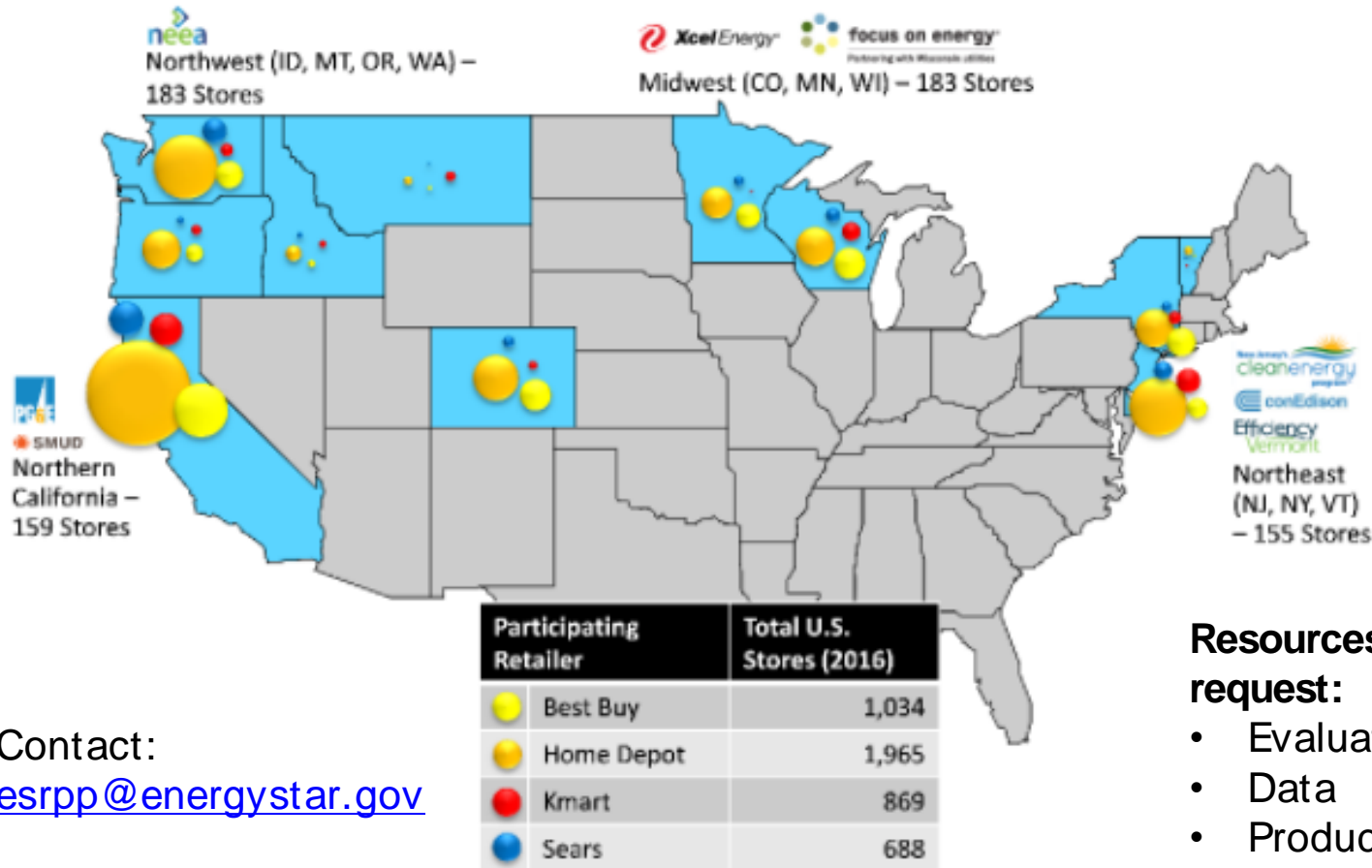
Why Does ENERGY STAR Care About Midstream Distributor Focused Incentive Programs?

Table 1: Participation Improvement for Distributor-Focused Residential Midstream Programs Compared to Downstream Programs

Efficiency Program	Measure	Incentive Amount	Increase in Program Participation
	ENERGY STAR Certified Heat Pump Water Heater (HPWH) ³	\$750	423% ⁴ (PY1) ⁵
	ENERGY STAR Certified HPWH ⁶	\$400	750% ⁷ (PY1)
	ENERGY STAR Certified HPWH ⁸ and Natural Gas Water Heaters ⁹	\$300 for gas; \$600 for HPWH	1000% ¹⁰ (PY2)
	ENERGY STAR Certified Natural Gas Boiler and Furnaces ¹¹	\$450 to \$800	234% (PY2)
	ENERGY STAR Certified HPWH ¹² and Natural Gas Water Heaters ¹³	\$100 for gas; \$300 for HPWH ¹⁴	Just began program in 2017

Order of magnitude increase in program participation!

ENERGY STAR Retail Products Platform (ESRPP)



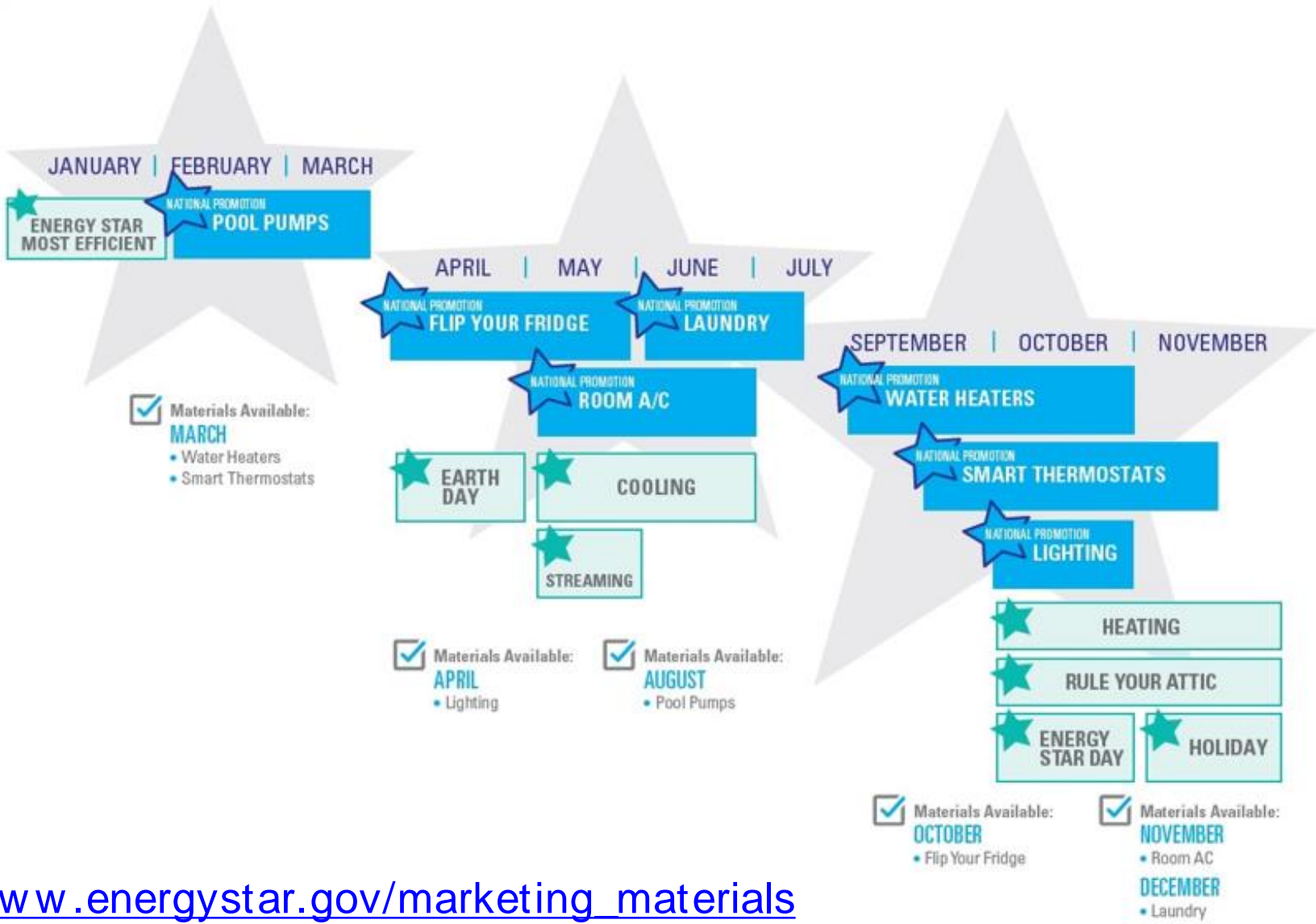
Contact:
esrpp@energystar.gov

www.energystar.gov/esrpp



Resources available upon request:

- Evaluation
- Data
- Products
- Marketing/field services
- Legal agreements



www.energystar.gov/marketing_materials



Thank You

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Appendix



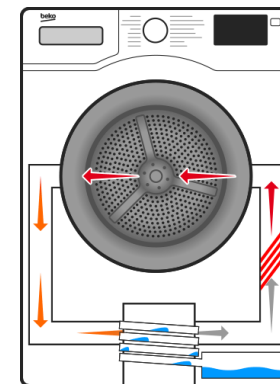
ENERGY STAR Products with Connected Functionality

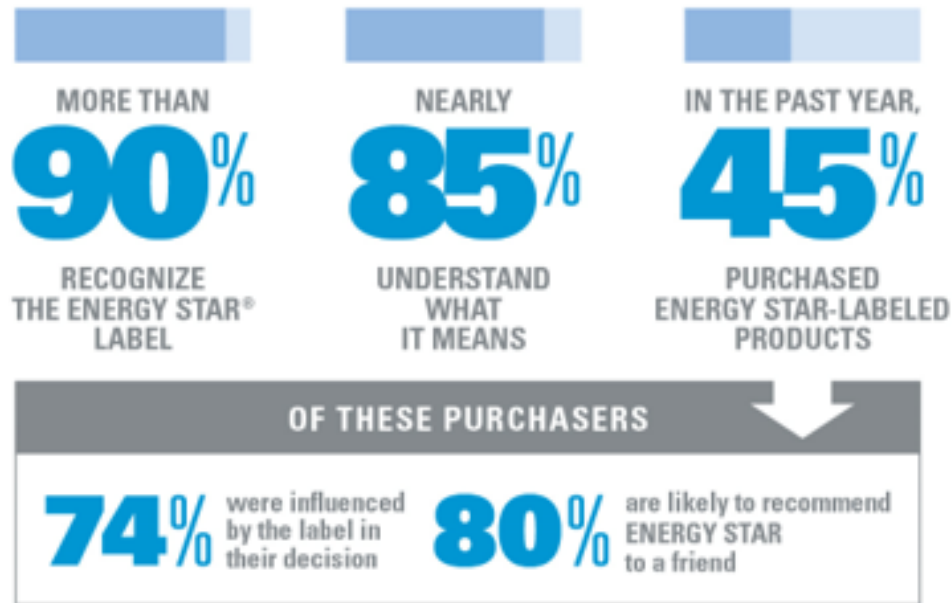
	Smart Thermostats	Refrigerators & Freezers	Clothes Washers	Clothes Dryers	Room A/C	Dish-washers	EVSE	Lighting	Pool Pumps	Ice Makers
Energy Consumption Reporting		✓	✓	✓	✓	✓		✓	✓	✓*
Operational Status Reporting		✓	✓	✓	✓	✓		✓	✓	✓*
Remote Management		✓	✓	✓	✓	✓		✓	✓	✓*
Demand Response	✓	✓	✓	✓	✓	✓	✓		✓	✓
Open Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DR override by Consumers	✓	✓	✓	✓	✓	✓	✓		✓	✓
Connected Capability not Optional	✓									
Capabilities or Demand Response Summary	✓						✓			✓



2013-2017: The Story of the Dryer

- 2013-2014: Dryers as ENERGY STAR Emerging Tech
 - 2015: New ENERGY STAR specification for Dryers took effect
 - 2017: New ENERGY STAR Most Efficient criteria added for Dryers
 - 2018: ENERGY STAR Most Efficient criteria expanded to include separate criteria for compact models
-
- **2015:** ~ **100** ENERGY STAR certified dryers from **11** brands
 - **Today:** **200** ENERGY STAR certified dryers from **14** brands
 - Gas and Electric Models
 - Compact and Standard Size
 - Vented and Ventless
 - *NEW:* field to indicate Heat Pump Technology
 - **9** dryers on the U.S. market meet ENERGY STAR Most Efficient 2017 criteria
 - **5** Brands – LG, Beko, Blomberg, Whirlpool & Asko
 - All tested to meet ENERGY STAR minimum efficiency criteria in a Max Dry setting
 - Hybrid and Full Heat Pumps
 - Compact and Standard Size
 - Vented and Ventless





YOUR
BRAND
HERE



- Draws Attention
- Makes it Simple
- Provides Guidance
- Delivers Credibility
- Elicits Trust
- Connects Emotionally
- Incentives the Sale