



ENERGY STAR Coffee Brewers Stakeholder meeting

May 19, 2014

Christopher Kent, U.S. Environmental Protection Agency

ENERGY STAR Program

Meeting Information



- Meeting slides and other specification development materials will be available on the Commercial Coffee Brewers Web page:
 - www.energystar.gov/newspecs
 - Follow link to “*Version 1.0 is in Development*” under “*Commercial Coffee Brewers*”

- Audio provided via conference call in:

Call in: +1-877-423-6338 (in the US, Canada)

Code: 654291

- Phone lines will remain open during the presentation to allow for open discussion
- Please keep phone lines on mute (*6) unless speaking

Introductions



- **Christopher Kent**
U.S. Environmental Protection Agency
- **Adam Spitz**
ICF International
- **Rebecca Duff**
ICF International
- **Meredith Ledbetter**
ICF International

Meeting Objectives



- Provide overview of the ENERGY STAR program
- Provide an overview of the ASTM Test Method for Coffee Brewers
- Provide a summary of data
- Provide a possible timeline of the specification development process
- Answer stakeholder questions about this process

Agenda



1	ENERGY STAR Program Overview
2	ASTM Test Method Review /Data Reports Template
3	Data Review
4	Timeline

What Is ENERGY STAR?



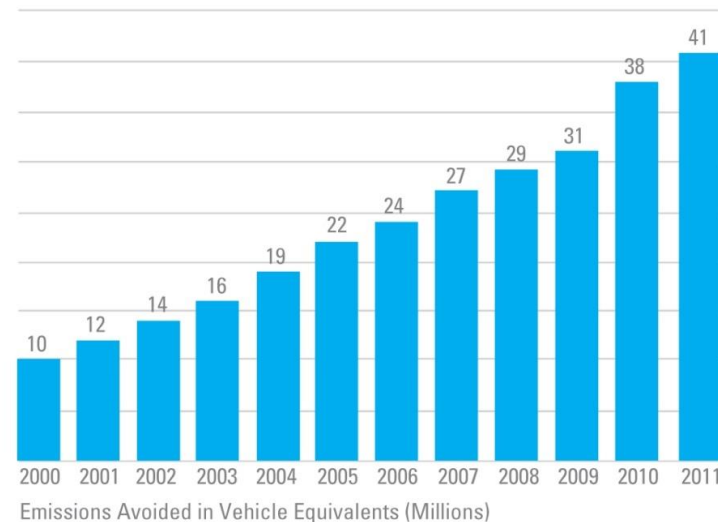
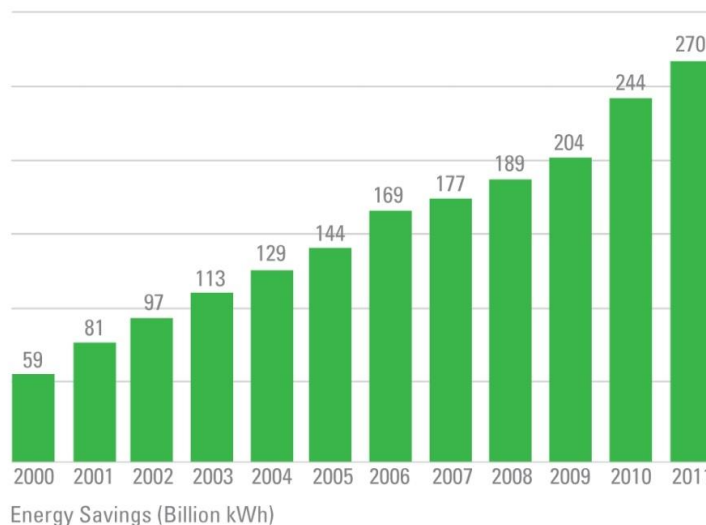
- Established in 1992
- Voluntary climate protection partnership with the U.S. Environmental Protection Agency (EPA)
- Strategic approach to energy management, promoting energy efficient products and practices
- Tools and resources to help save money and protect the environment

Success: 2013 Accomplishments



- Americans with the help of **ENERGY STAR** prevented 277 million metric tons of GHG emissions and saved \$10 billion in benefits to society due to reducing damages of climate change.
- Over 1.5 million new homes are ENERGY STAR qualified
- 40% of the nations commercial space (350,000 buildings) have been benchmarked

Since 2000, ENERGY STAR Benefits Have More Than Tripled



ENERGY STAR Portfolio



- Define and educate on energy performance through a single designation: ENERGY STAR
 - Product Efficiency
 - New/Existing Home Efficiency
 - Commercial Building Efficiency

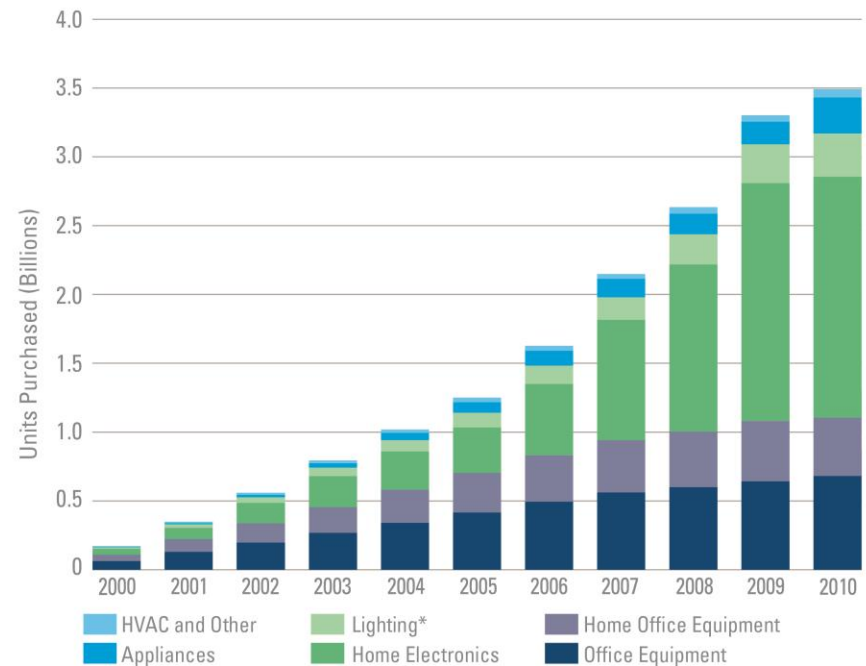


ENERGY STAR Products



- Americans purchased about 300 Million ENERGY STAR certified products in 2013 in over 70 categories
- Cumulative total of almost 4.9 billion products since 1993
- 85% of the American public recognizes the ENERGY STAR label
- Product are 20 – 65% more efficient depending on type

Almost 3.5 Billion ENERGY STAR Qualified Products Purchased Since 2000



**Lighting category does not include purchases of compact fluorescent bulbs.*

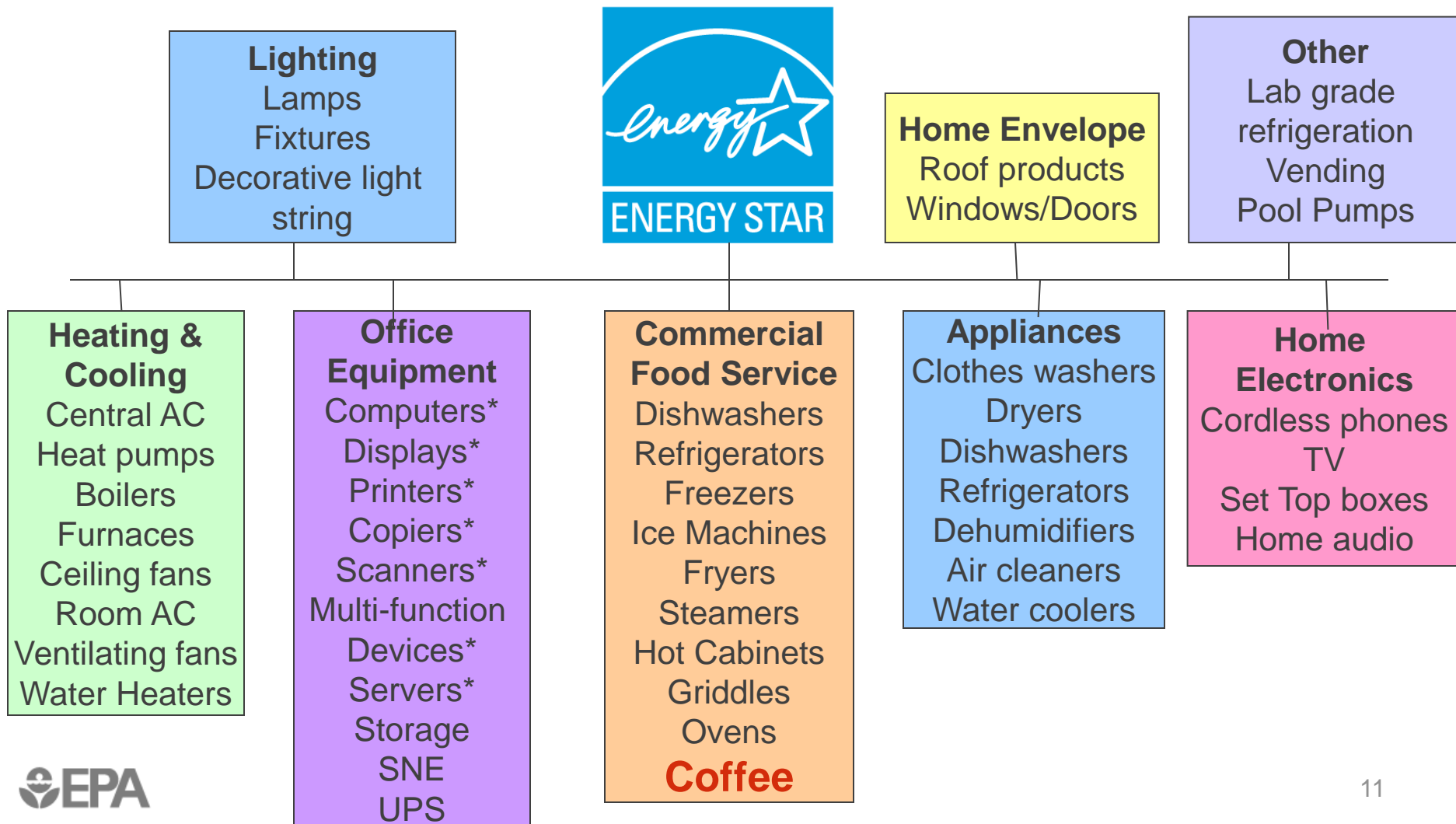
ENERGY STAR Labeled Products Facts



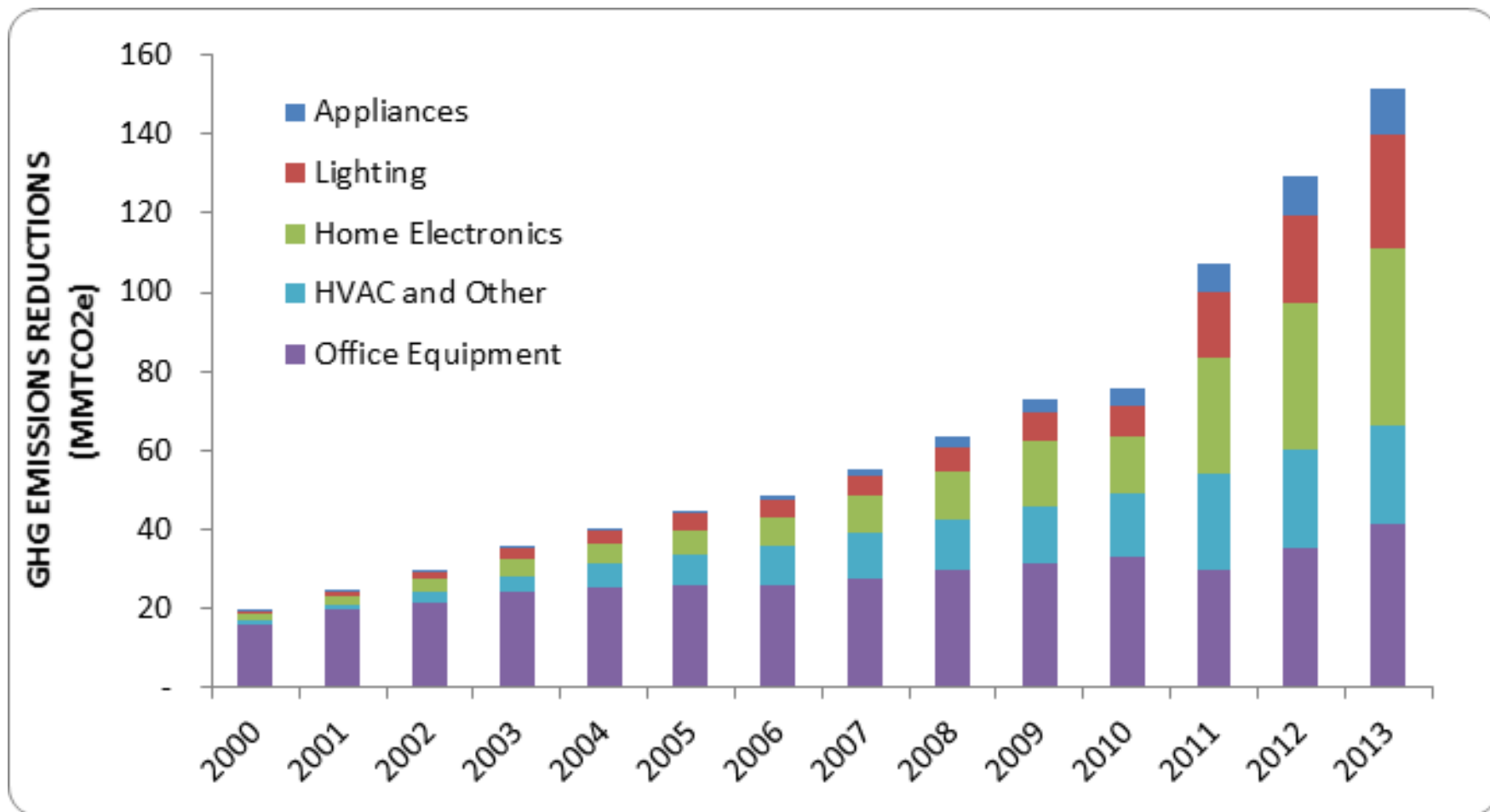
- More than 40,000 product models carry the ENERGY STAR label
- More than 65 types of products carry the ENERGY STAR label
- ENERGY STAR has over 1,800 manufacturing partners
- ENERGY STAR has more than 2,500 retail partners in the United States and Puerto Rico

Source: ENERGY STAR Data Book 2013

70 Product Categories Are Covered by ENERGY STAR in the US



GHG Savings by Product Type



Benefits of ENERGY STAR Qualified Products



- Consume less energy
 - Reduced kWh – reduced CO₂ emissions
 - Reduced kWh – less heat – reduced A/C expenses
- Equivalent or better quality
- Annual and life cycle cost savings
 - Additional funds for programmatic uses
- Publicly demonstrate commitment to environment
- Third-party certification procedures bolster the integrity of the program and ensure energy-efficient performance

Partnership Benefits



- Use of the certification mark to differentiate top energy efficient products
- Leveraging ENERGY STAR marketing resources
- Access to Utility incentive programs
- Preferential purchasing by Federal programs

How does ENERGY STAR Drive the Market?



Desktop Idle (W) Over Time - Based on Business Desktop in ES Data Sets



- ENERGY STAR specifications change over time to ensure:
 - Certified products are industry leaders
 - Transforms the market to greater energy efficiency*

* 2011 data is draft data from a preliminary version of ENERGY STAR computer specification

What is ENERGY STAR Purchasing?



- ENERGY STAR Purchasing helps organizations identify, specify, and purchase ENERGY STAR® qualified products as part of an overall energy management strategy.



**BUY PRODUCTS THAT MAKE
A DIFFERENCE**

U.S. Environmental Protection Agency • U.S. Department of Energy

ENERGY STAR Purchasing Requirements for Federal Agencies



- The Energy Policy Act of 2005
 - Purchase either ENERGY STAR products or Federal Energy Management Program (FEMP) designated
- Executive Order 13423 (2007)
 - Activation of ENERGY STAR power management features on computers and monitors
 - Purchase of EPEAT registered products
- Executive Order 13514 (2010)
 - Sets sustainability goals for Federal agencies
 - Ensure that 95 percent of new contracts include products that are energy-efficient (ENERGY STAR qualified or Federal Energy Management Program (FEMP) designated)
 - Promote electronics stewardship

Guiding Principles Reaffirmed

- Significant energy savings on a national basis
 - Product performance maintained or enhanced with increased efficiency
 - Consumers recover investment in efficiency within a reasonable period of time
 - Efficiency can be achieved with one or more technologies – products are available from more than one manufacturer
 - Energy consumption and performance can be measured and verified with testing
 - Labeling would effectively differentiate products and be visible to purchasers
- Update May 2012

ENERGY STAR Program Principles



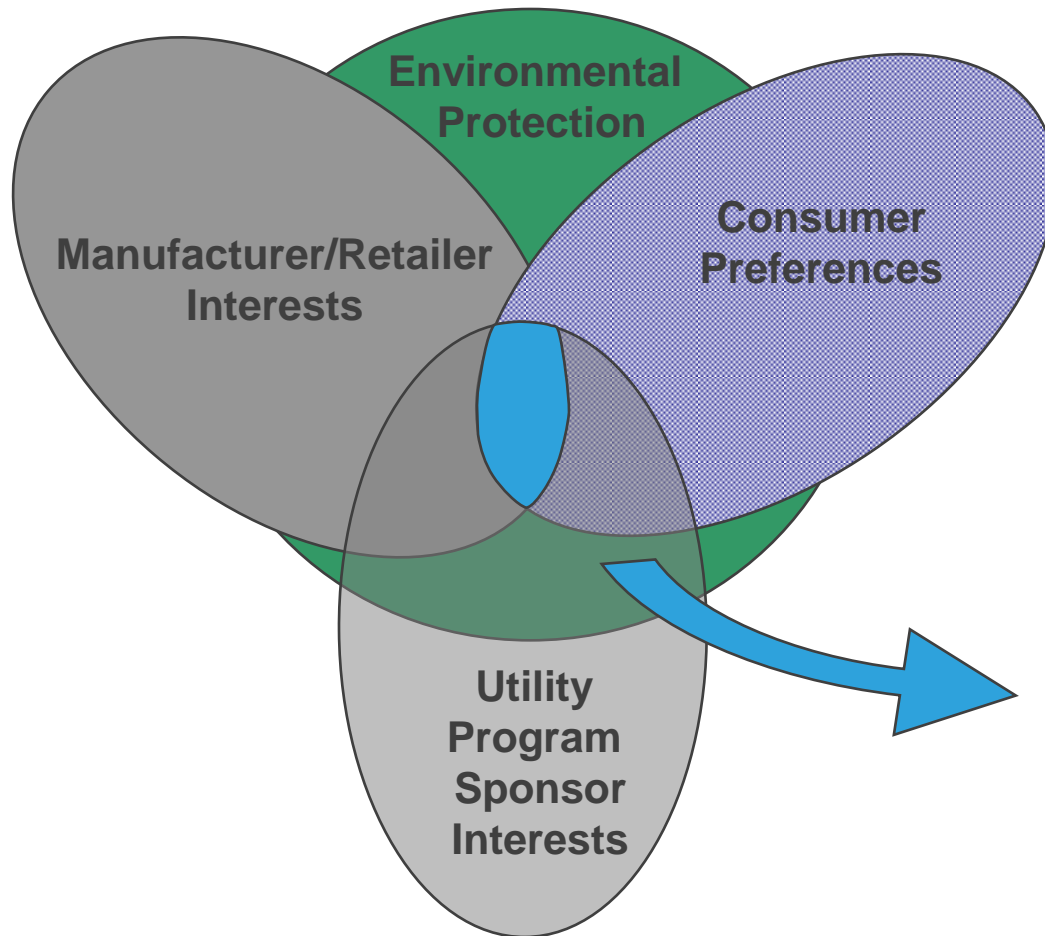
- Requirements based on sound data
 - Proposed requirements are reflective of real product performance, rewarding true leadership products, and deliver of energy saving promise
- Support and adopt vetted testing metrics/standards
 - Reduced development cost, reduce partners compliance cost
- Open and transparent stakeholder process
 - Enhanced understanding of products, market, and impact of proposed requirement, Open and transparent doesn't mean consensus

Important Process Elements



- Consistency
- Transparency
- Inclusiveness
- Responsiveness
- Clarity

Builds on Intersection of Interests



- Cost-effective
- No Sacrifice in Performance

Consumer is Key

How Does ENERGY STAR Maintain Relevancy?

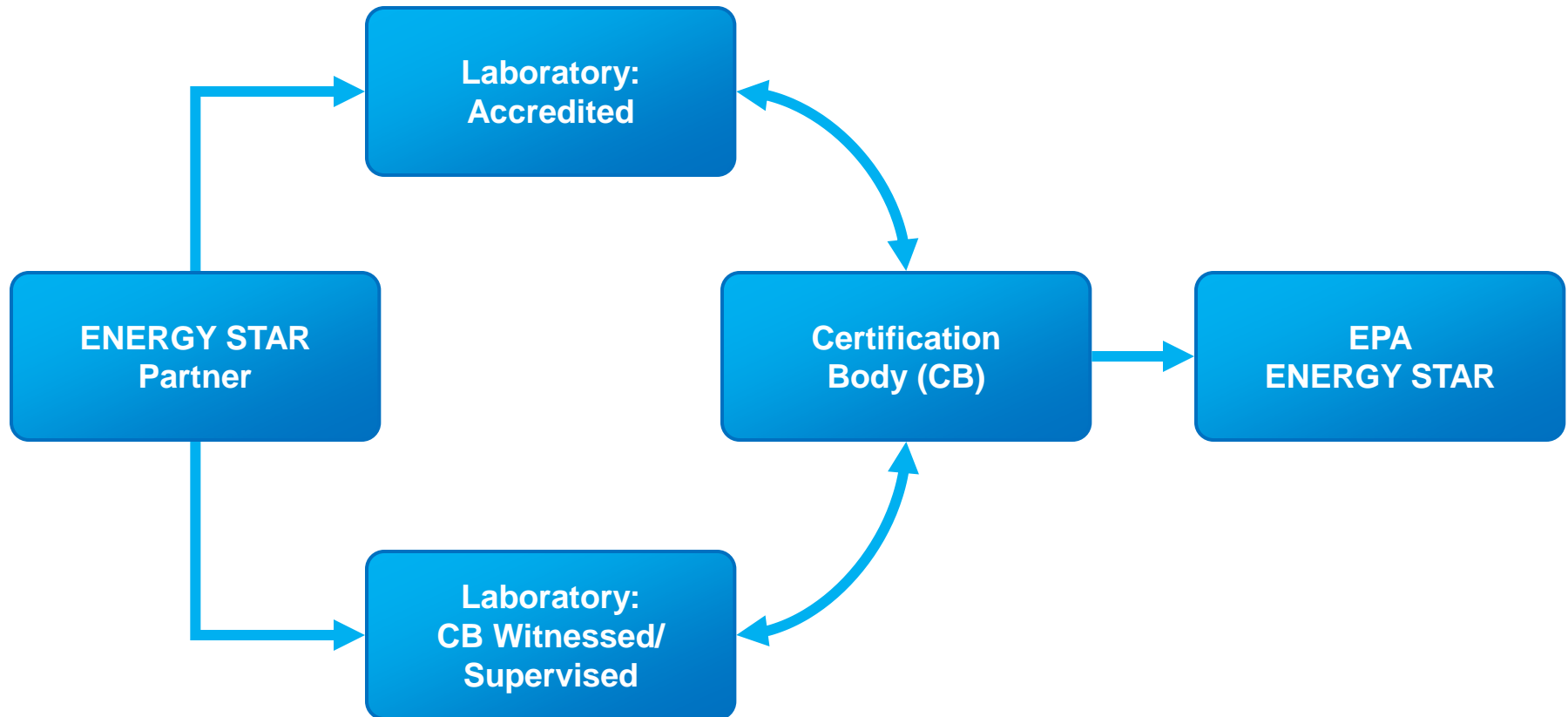


Specifications are updated in response to market changes:

- High market share
- Change in Federal minimum efficiency standards
- Availability, performance, or quality concerns
- Advancements in technology
- Changes in test procedures



Product Qualification Process



Integrity Highlights



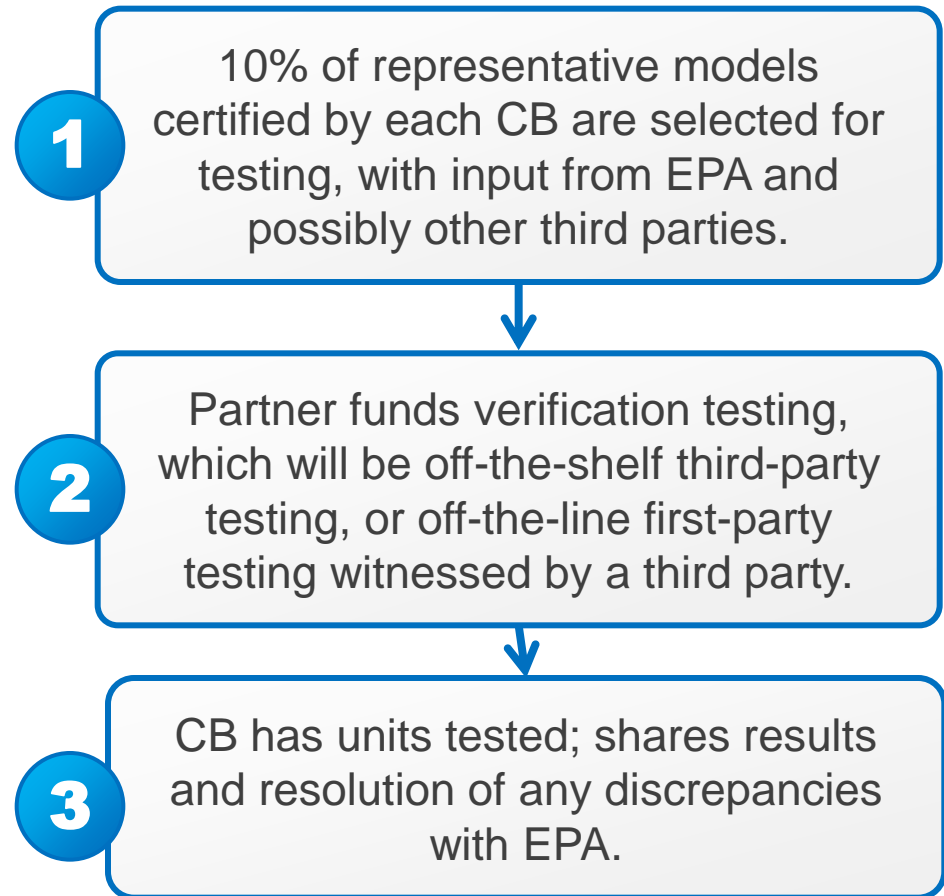
- Since the launch of the third-party certification scheme in Jan 2011, EPA has recognized:
 - 28 accreditation bodies (ABs)
 - 25 certification bodies (CBs)
 - 530 testing laboratories (Labs)
- New applications and applications to expand EPA recognition are processed on a rolling basis and a response is provided typically within one week.
- EPA updates the [online directory of CBs and Labs](#) and maintains a separate listing for [specific lighting categories](#).

www.energystar.gov/3rdpartycert

Verification Testing



- Verification testing ensures models meet ENERGY STAR requirements post-qualification
- U.S. Department of Energy initiated verification testing of ENERGY STAR qualified models in 2010



Unit Shipment Data



- All ENERGY STAR manufacturing partners are required to report annual unit shipment data (USD) for certified products shipped to or within the U.S. Estimates are not accepted. Failure to submit data typically results in the interruption of partner privileges.
- USD is used to determine the market share of ENERGY STAR products and evaluate the overall performance of the program.
- At the conclusion of each annual effort, EPA publishes and posts an [Annual Unit Shipment Data Report](#). The report discusses the data collected, methodology used, response rate, and market share for each product category.

www.energystar.gov/usd

Use of the ENERGY STAR Label



- The ENERGY STAR mark is a valuable asset, and like any asset with appreciable value, it must be properly used and protected.
- Partnering organizations agree to abide by EPA's ENERGY STAR program identity guidelines prior to using the logo.
- EPA monitors the use of the ENERGY STAR label and name in trade media, advertisements, and the internet to ensure they are applied properly and consistently in the marketplace.

Logo Enforcement



- Over 800 incidents of possible misuse have been investigated since January 1, 2010.
 - 253 of these have been confirmed to be cases of label misuse:
 - 97 in 2010,
 - 97 in 2011,
 - 45 in 2012, and
 - 14 to date (August 2013) in 2013, showing a clear decline over time.
- In cases of misuse, EPA works with the responsible party to:
 - resolve the issue in a timely manner; and
 - provide advice and education on appropriate use of the ENERGY STAR label to help avoid future instances of misuse.

Product Finder Tool



- Public-facing tool consumers, retailers, utilities and other stakeholders use to access product data
- www.energystar.gov/productfinder

Partner Benefits:

- Provide better access to EPA product data for all stakeholders
- Improve the ability to find and reconcile product data
- Improve data quality
- Model data updated daily
- Expected product finder tools rollout for all products: Fall 2013

ENERGY STAR Certified Residential Clothes Washers



Access the API, Analyze and Embed Data, Create an Account and more. [Switch to Advanced View >](#)

32 Products match your search

LG

Modified Energy Factor (MEF)

Compare up to 4 items

Load Configuration is

- ☐ Top Load
- ☐ Front Load
- ☒ Do not filter

Brand Name is

- ☐ Amana
- ☐ Ariston
- ☐ Asko
- ☐ BRADA
- ☐ Blomberg

LG - WM8000H**

Load Configuration: Front Load

Volume: 5.16 cu. feet

☐ Compare

LG - WM3550H***

Load Configuration: Front Load

Volume: 4.26 cu. feet

☐ Compare

LG - WM3150H**

Load Configuration: Front Load

Volume: 4.26 cu. feet

☐ Compare

LG - WM4070H**

Load Configuration: Front Load

Volume: 4.26 cu. feet

☐ Compare

Main search page for clothes washers product finder tool

ENERGY STAR Certified Residential Clothes ...
This list contains all currently ENERGY STAR certified residential

PD_ID	Brand Name	Model Number
1	2,086,910	LG
2	2,169,722	Kenmore
3	2,169,721	Kenmore
4	2,081,234	Samsung
5	2,081,233	Samsung
6	1,907,349	Frigidaire
7	2,086,858	LG
8	2,086,842	Kenmore
9	2,086,843	Kenmore
10	2,086,841	LG
11	1,907,348	Frigidaire

Advanced view, which will replace Excel-based lists

Product Specification Search Tool



Product Specifications Search

Category

✓ Check all ✕ Uncheck all

- ☐ Lighting & Fans
- ☐ Other
- ☐ Heating & Cooling
- ☐ Commercial Food Service Equipment
- ☐ Building Products
- ☐ Electronics and Office Equipment
- ☐ Appliances

Product

✓ Check all ✕ Uncheck all

- ☐ Commercial LED Lighting
- ☐ Decorative Light Strings
- ☐ Exit Signs
- ☐ Lamps
- ☐ Fans, Ventilating
- ☐ Fans, Ceiling
- ☐ Light Bulbs (CFLs)
- ☐ Light Bulbs (Integral LED)

Status

- New Product Under Development
- Under Revision
- In Effect**
- Available for Early Certification
- Historical
- Sunsetted

Narrow by Effective Dates

Start E.g., 2013-07-09

End E.g., 2013-07-09

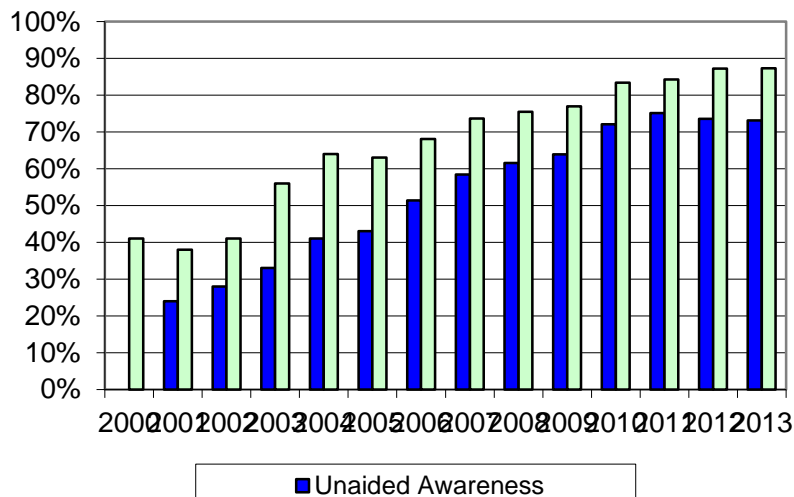
Apply

Product Specification Results

Category	Product	Status	Version	Effective Dates	Notes
Appliances					
	Clothes Washers	In Effect	6.1	02/15/2013	
	Commercial Clothes Washers	In Effect	6.1	02/15/2013	
	Dishwashers	In Effect	5.2	01/20/2012	

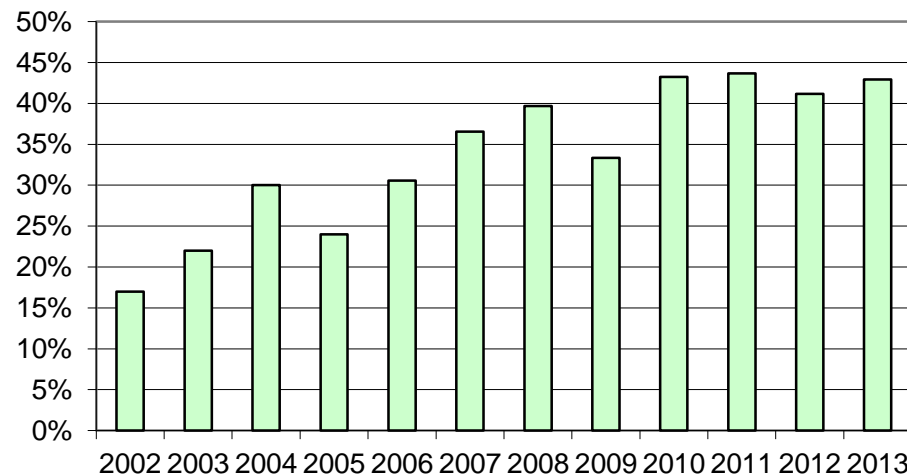
- All ENERGY STAR specifications now listed on one webpage
- www.energystar.gov/specifications

Consumer Awareness

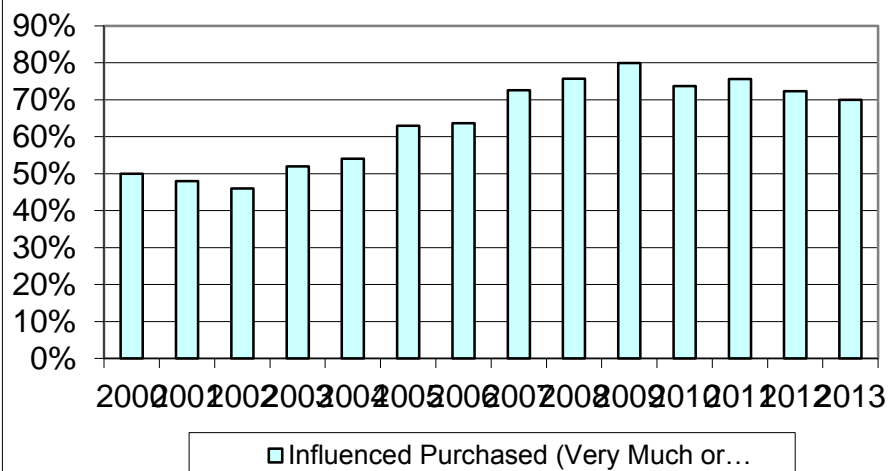


About 87% of US households recognize the ENERGY STAR label

More than 40% of US households knowingly purchased ENERGY STAR qualifying product in 2012

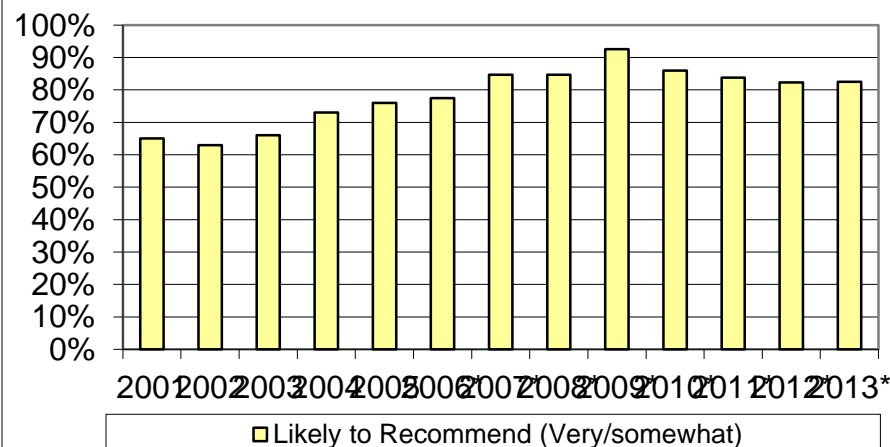


Consumer Awareness, cont.



73% reported the ENERGY STAR label as influential to their purchasing decision

About 83% are likely to recommend ENERGY STAR products to friends



National Campaign Updates



- The Change the World, Start with ENERGY STAR Campaign is a vehicle for individuals and organizations to get involved in protecting the environment through preventing greenhouse gas emissions.
- Some of the ways to participate include:
 - Organizations can become a pledge driver to encourage others to take the pledge and reduce their environmental impact
 - Individuals can:
 - “Share Your Story” on how they are reducing their impact on the environment
 - Take the pledge
 - Join Team ENERGY STAR



National Campaign Updates, *cont.*



Additional opportunities to get involved in the campaign include:

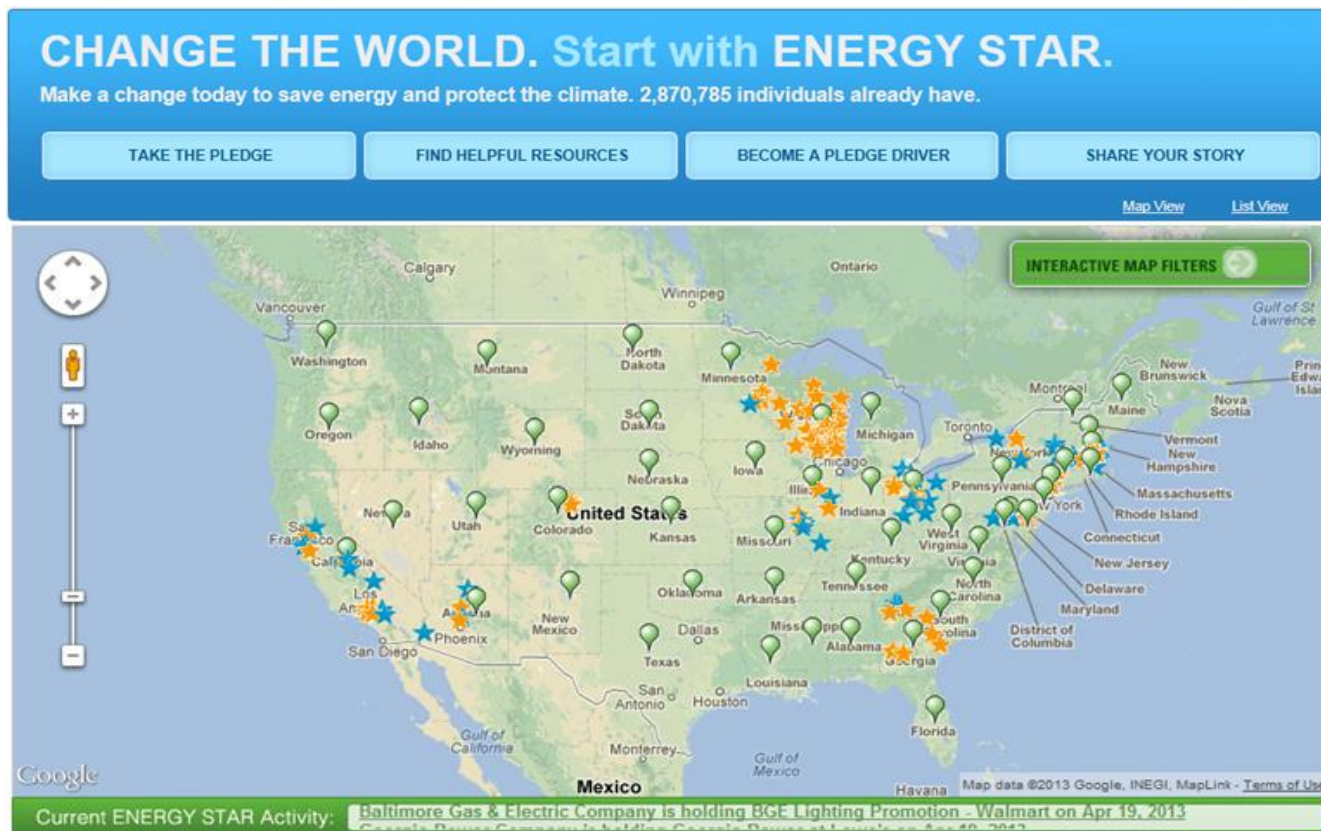
- Add an event to the ENERGY STARs Across America map
- Promote ENERGY STAR on Earth Day and ENERGY STAR Day through promotional events and social media
- Encourage youth to join Team ENERGY STAR
- Provide in-kind donations to reward the efforts of Team ENERGY STAR members



National Campaign Updates, *cont.*



- ENERGY STAR partners promote their events on the ENERGY STARs Across America Map located on www.energystar.gov/changetheworld



Retailer Highlights



- Retailers partner with EPA to promote ENERGY STAR in several ways, including:
 - Labeling certified products in-store and online
 - Integrating ENERGY STAR into promotions across all vehicles, such online, in-store, and direct mail
 - Holding employee- and customer-focused events to promote ENERGY STAR
 - Promoting Team ENERGY STAR and the ENERGY STAR Campaign through in-store events, such as children's workshops
 - Creating innovative ways to educate customers on ENERGY STAR product features and energy and financial savings

Partner of the Year



- Each year, the US EPA ENERGY STAR program honors organizations that have made outstanding contributions to protecting the environment through energy efficiency.
- The [ENERGY STAR Awards](#) are extremely competitive and the criteria are rigorous.
- All organizations participating in the ENERGY STAR program are encouraged to apply for the award.
- To be considered, an organization must meet the specific eligibility requirements in the award application and submit a complete online application package by set date.

ENERGY STAR is International



- U.S. EPA has arrangements with agencies in other countries regarding **ENERGY STAR** for office equipment
 - Japan
 - Taiwan
 - Switzerland
 - Australia: also includes home electronics and others
 - New Zealand: also includes home electronics and others
 - Canada: also includes most other product categories
- U.S. Government has a formal agreement with the European Union on **ENERGY STAR** for office equipment

Agenda



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2	ASTM Test Method Review /Data Reports Template
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ASTM Test Method



- American Society for Testing and Materials (ASTM) F2990-12 Standard Test Method for Commercial Coffee Brewers
 - Finalized and approved in 2012
 - Applicable for single-cup (Type I) and batch (Type II) brewers
 - Excludes residential, urns and satellite coffee brewers; espresso and other specialty coffee brewers
 - Evaluates energy consumption along with brewing and holding temperatures
 - Preheat energy consumption and time
 - Heavy use brewing energy test
 - Stand-by (Ready to brew) energy test
 - Energy saving mode energy test (if applicable)

ASTM Test Method, *cont.*



- Heavy-Use Brew Test
 - Type I: Requires one stabilization brew event and **ten** consecutive brew events (includes recovery energy)
 - Type II: Requires one stabilization brew event and **three** consecutive brew events (includes recovery energy)
 - Test results' reported values include:
 - Energy rate (kW)
 - Production capacity (gall of coffee brewed/hour)

ASTM Test Method, *cont.*



- Stand-by (Ready to brew) Test
 - Type I and II: Requires one hour of stabilization in stand-by and **two** consecutive hours in stand-by
 - All accessories (i.e., lights/warming plates, etc.) shall remain “ON”
 - Subsequent idle tests shall be performed with each accessory in the “OFF” mode
- Energy Saving Mode Test
 - Same as the stand-by test but operating in a reduced energy mode (if applicable)

Test Report Measurement



ENERGY STAR® Coffee Brewer Test Reporting Template - Test Measurements

Test Setup Description						
Input Voltage						V
Average ambient temperature						Degrees Fahrenheit
Maximum Energy Input Rate						
Manufacturer nameplate input rate						kW
Measured energy input rate						kW
Preheat Energy Consumption and Time						
Duration						Minutes
Electric energy consumption						kWh
Incoming water temperature						Degrees Fahrenheit
Pre-heat rate						Degrees Fahrenheit/Min
Water consumed during preheat test						Gal
Heavy Use Brewing Energy Test						
Total elapsed time during Heavy Use						Minutes
Total energy consumed during Heavy Use						kWh
Average incoming water temperature						Degrees Fahrenheit
Maximum brew volume temperature						Degrees Fahrenheit
Calculated average energy rate						kW
Calculated production capacity						Gal/hr
Energy Save Mode Energy Rate						
Average total energy consumed during Energy Save Mode						kWh
Average tank temperature (if applicable) during Energy Save Mode						Degrees Fahrenheit
Ready-To-Brew (Standby) Energy Rate						
Average total energy consumed during Standby						kWh
Calculated Standby Energy Rate						kW
Average tank temperature during Standby						Degrees Fahrenheit
Number of warmers activated during Standby						

Additional Test Methods



- ASTM F2990-12 is the only existing test method for commercial coffee brewers
- EPA is interested in learning more about the energy performances of other types of coffee brewers (i.e., espresso, bean-to-cup, etc.)
- Strong interest in the development of espresso machines test method

Agenda



1

ENERGY STAR Program Overview

2

ASTM Test Method Review /Data Reports Template

3

Data Review

4

Timeline

Performance Data



- Data Overview:
 - Type I: **0** data points
 - Type II: **4** data points
- More performance test data is needed for both Type I and Type II brewers before proposing any draft levels
- Performance test data may originate from OEM labs and others but data for certification must be done in an EPA recognized CB/lab

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Efficiency Criteria Timeline



Topic	Timeframe
Draft 1 Version 1.0 Efficiency specification to stakeholders *	August 2014
Draft 1 Version 1.0 Efficiency specification comments due	September 2014
Draft 2 Version 1.0 Efficiency specification to stakeholders *	November 2014
Draft 2 Version 1.0 Efficiency specification comments due	December 2014
Final Draft Version 1.0 Efficiency specification to stakeholders *	January 2015
Final Draft Version 1.0 Efficiency specification comments due	February 2015
Final Version 1.0 Efficiency specification *	February 2015

* Dependent on data and stakeholder involvement

Contact Information



Please send any additional comments to coffeebrewers@energystar.gov or contact:

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Thank you for participating!