



ENERGY STAR® Commercial Ovens

Draft 1 Version 2.2 Stakeholder Meeting

May 18, 2015
NRA Show, McCormick Place
Chicago, Illinois



Today's Agenda

- Introductions
- About ENERGY STAR
- Overview of the specification development process
- Activities to date
- Overview of proposed changes
 - Definitions
 - Scope
 - Performance Criteria
- General discussion & Questions
- Next steps
- Adjourn



Introductions

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U.S. Environmental Protection Agency

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EPA would like to thank the stakeholders who have participated thus far in the revision of the ENERGY STAR specification for Commercial Ovens

ENERGY STAR: Driving Change

Reducing GHG emissions, saving energy and saving money through ENERGY STAR, a public-private partnership of the Environmental Protection Agency





ENERGY STAR TODAY

Of the **87% of households** that recognize the ENERGY STAR label

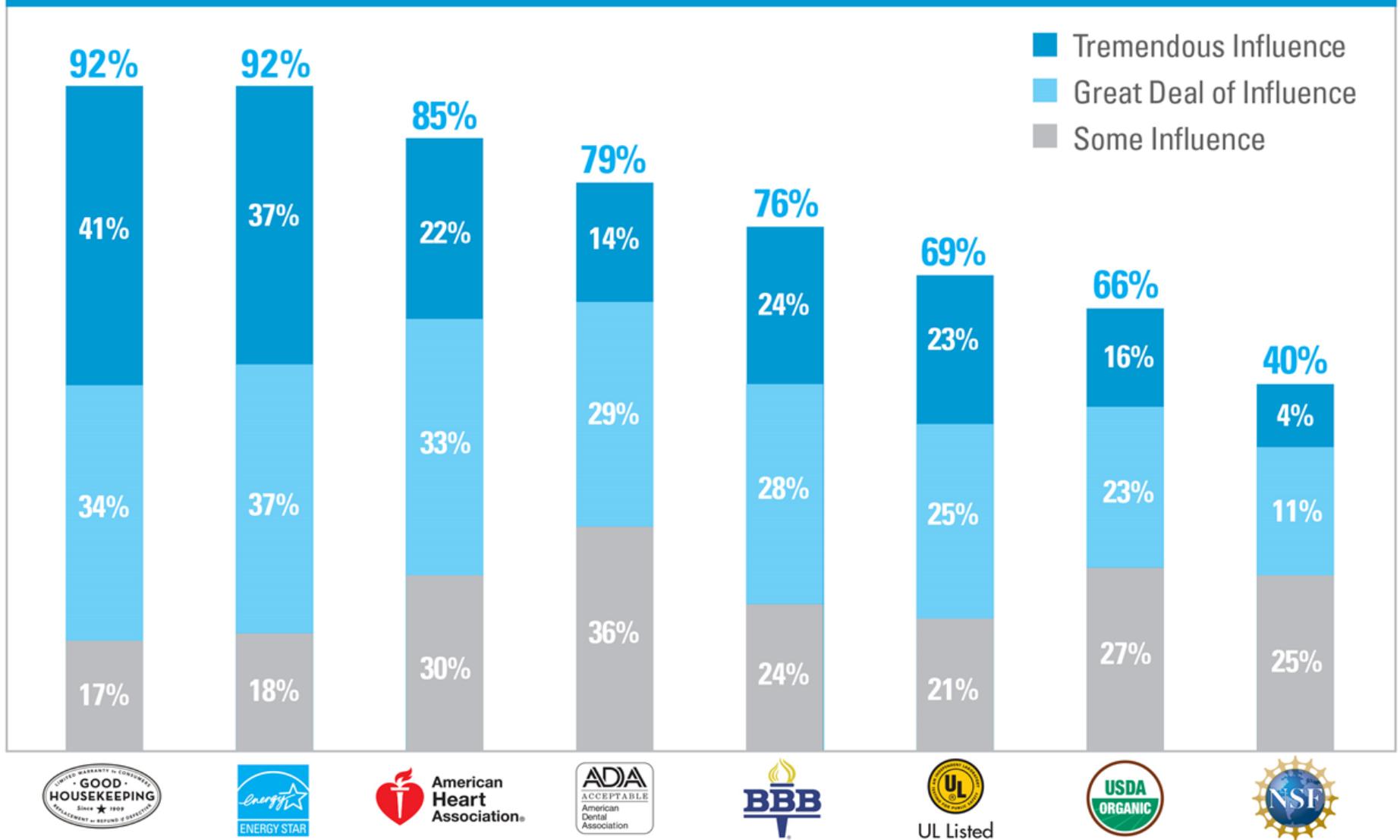
More than **84% of households** have a high or general understanding of the ENERGY STAR label

77% said the label **influenced at least one** of their purchase decisions very much or somewhat

75% were **likely to recommend** ENERGY STAR-labeled products to a friend

30% were extremely likely to recommend ENERGY STAR

Top-Ranked Consumer Emblem



For more than **20 years**, EPA's ENERGY STAR program has identified the most energy efficient **products**, **buildings**, **plants**, and **new homes** – all based on the latest government-backed standards and a rigorous third-party certification process.



ENERGY STAR. The simple choice for energy efficiency.



Today,
this little blue label
does all the hard work
of certifying outstanding
energy efficiency in:

70

**Product
Categories**



ENERGY STAR. The simple choice for energy efficiency.



Today,
this little blue label
does all the hard work
of certifying outstanding
energy efficiency in:

**Buildings
and Plants
Across**

24
Industries



ENERGY STAR. The simple choice for energy efficiency.



Today,
this little blue label
does all the hard work
of certifying outstanding
energy efficiency in:

**NEW
HOMES
Across the Nation**



To date,
the **ENERGY STAR**
program has:

- Prevented 2 billion metric tons of greenhouse gas emissions
- Saved \$300 billion on utility bills
- Contributed to a total U.S. carbon footprint reduction of 9% since 2005
- Provided more than \$9 billion in societal benefits thanks to reduced damages from climate change.



Product Categories

Lighting

Residential lamps
Residential light fixtures



Home Envelope

Roof products
Windows/Doors
Pool pumps

Heating & Cooling

Central AC
Heat pumps
Boilers
Furnaces
Ceiling fans
Room AC
Ventilating fans
Water Heaters

Office Equipment

Computers
Monitors
Printers
Copiers
Multi-function Devices
Servers
Storage
UPS

Commercial Food Service

Dishwashers
Refrigerators
Freezers
Ice Machines
Fryers
Steamers
Hot Cabinets
Griddles
Ovens
Vending
Water Heaters

Appliances

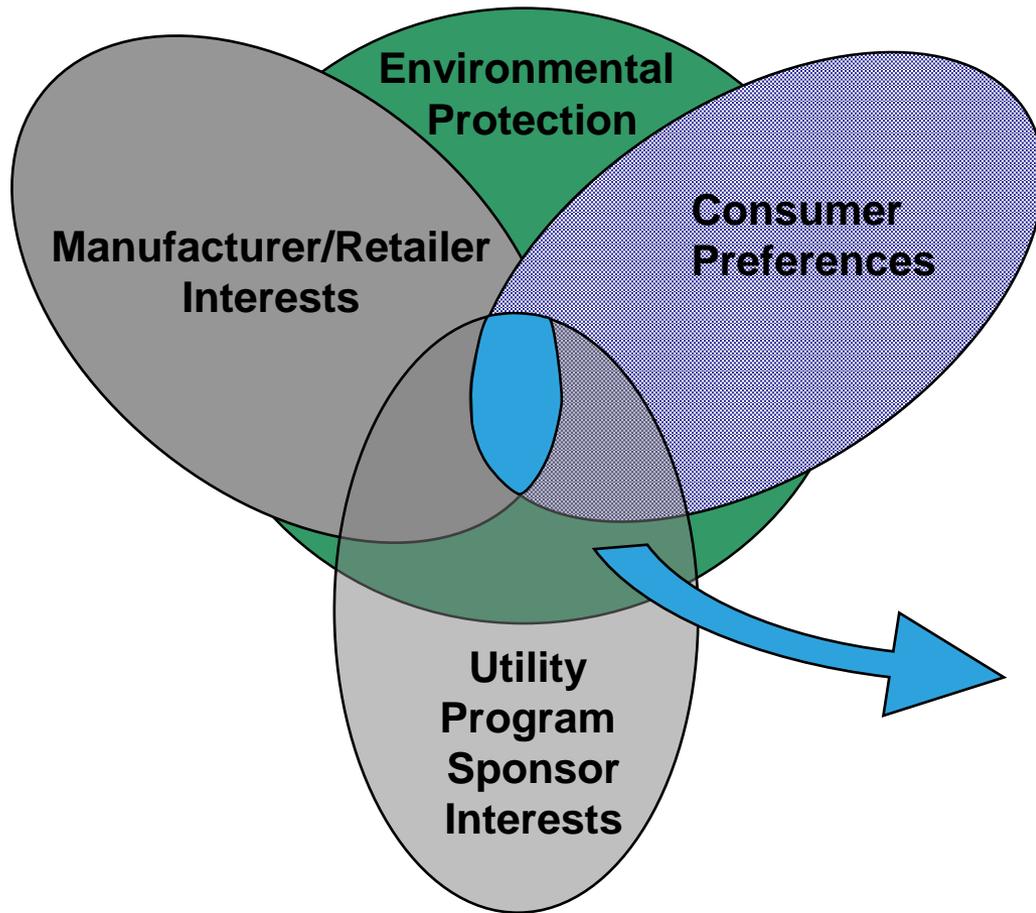
Clothes washers
Dishwashers
Refrigerators
Dehumidifiers
Air cleaners
Water coolers
Dryers

Home Electronics

Cordless and IP phones
TV
Set Top boxes
Home audio
Modems/Routers



How it works:

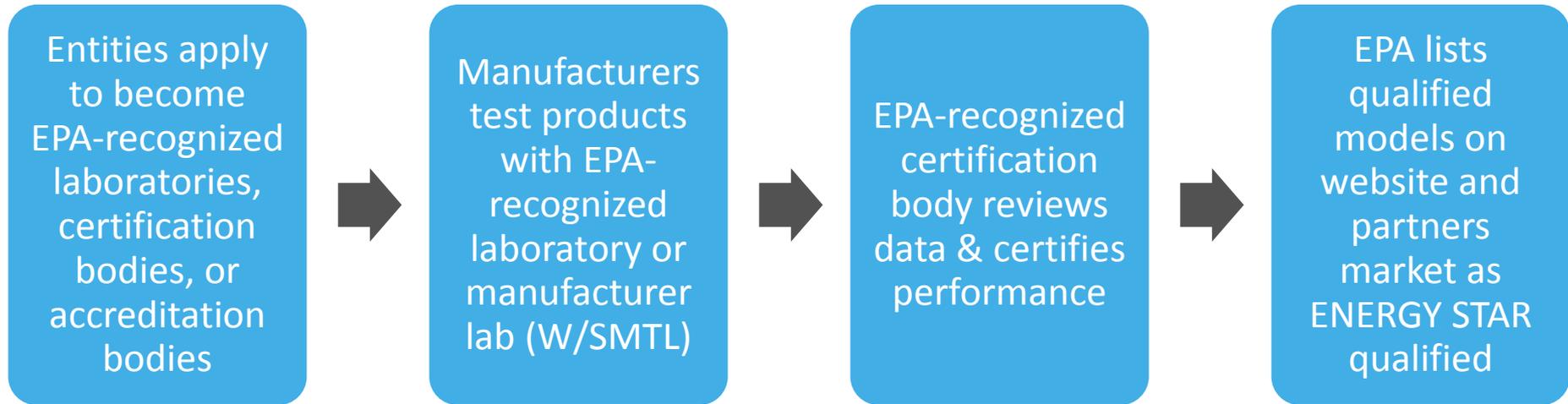


- Cost-effective
- No Sacrifice in Performance
- Government backed

Consumer is Key



ENERGY STAR's Third-Party Certification Process

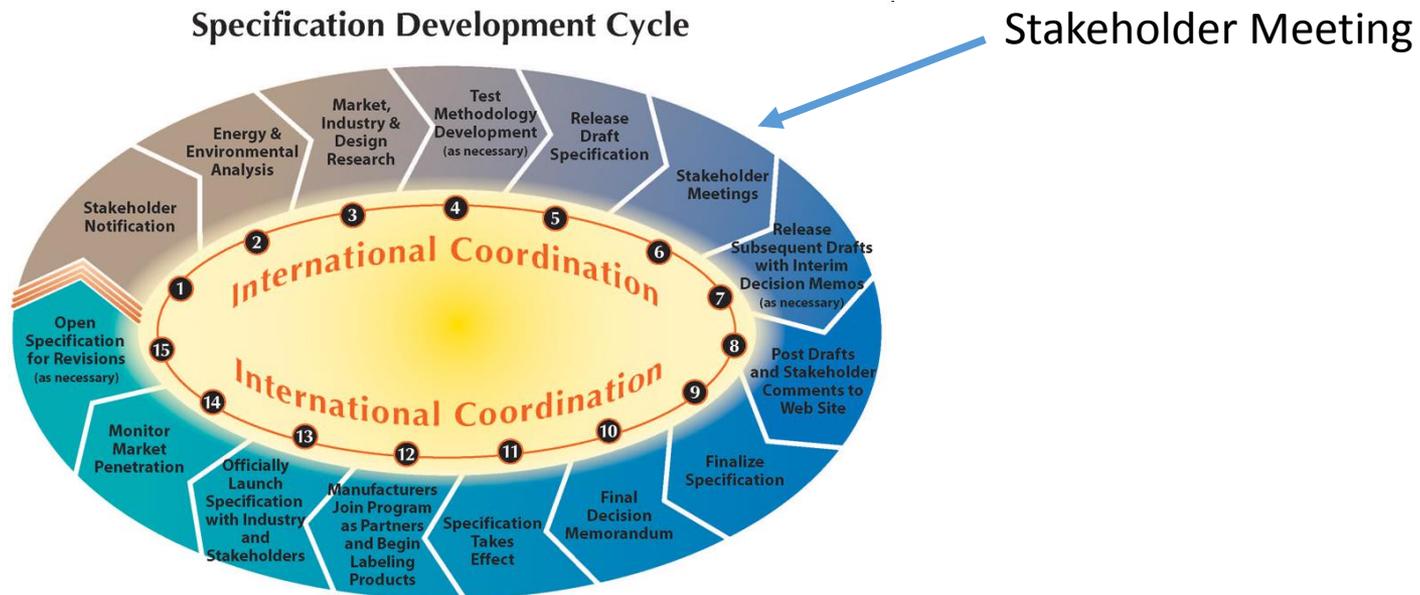


Effective January 1, 2011

Details available at www.energystar.gov/3rdpartycert

Activities to Date

- Official Version 2.2 Launch: March 30, 2015
- Draft 1 Release: May 8, 2015
- Draft 1 Stakeholder Meeting: May 18, 2015





Overview of Proposed Changes



Definitions

V2.1

Rack (Roll-In) Oven: A high-capacity oven, with the ability to produce steam internally and fitted with a motor-driven mechanism for rotating multiple pans fitted into one or more pan racks within the cavity.

Proposed V2.2

Rack Oven: A high-capacity oven that offers the ability to produce steam internally and is fitted with a motor-driven mechanism for rotating multiple pans inserted into one or more removable or fixed pan racks within the oven cavity.



Definitions cont.

V2.1

Mini-Rack Oven: A rack oven that has the ability to produce steam internally and includes an internal rotating rack where pans are manually pushed into the racks. Mini-rack ovens typically hold 5 – 8 full-size sheet pans.

Proposed V2.2

Mini Rack Oven: A stand-mounted rack oven designed with a fixed rack that cannot be removed. Mini rack ovens are capable of accommodating up to 10 standard full-size sheet pans measuring 18 x 26 x 1-inch, based on nominal 4-inch spacing between pans.



Definitions cont.

V2.1

Single Rack Oven: A rack oven that is able to hold one full rack of sheet pans of product at a time, based on nominal 4-inch spacing between pans.

Proposed V2.2

Single Rack Oven: A floor-model rack oven that is able to accommodate one removable single rack of standard sheet pans measuring 18 x 26 x 1-inch, based on nominal 4-inch spacing between pans.



Definitions cont.

V2.1

Double Rack Oven: A rack oven that is able to hold two single racks or one double-width rack, based on nominal 4-inch spacing between pans.

Proposed V2.2

Double Rack Oven: A floor-model rack oven that is able to accommodate two removable single racks of standard sheet pans measuring 18 x 26 x 1-inch, or one removable double-width rack, based on nominal 4-inch spacing between pans.



Definitions cont.

(New) Energy Efficiency Metric

Proposed V2.2

Baking-Energy Efficiency: The ratio of energy absorbed by the food product to the total energy supplied to the oven during baking.

ASTM Definition (*Specific to the F2093-11 Standard*)

Baking Energy Efficiency: Quantity of energy imparted to the pies, expressed as a percentage of energy consumed by the rack oven during the baking event.

*Note: The ENERGY STAR Cooking-Energy Efficiency definitions in other CFS specifications do not align verbatim with the referenced ASTM Standard(s).



Definitions cont.

(New) Qualification Terms

Proposed V2.2

Single Rack: Single racks shall accommodate 15 full-size sheet pans measuring 18 x 26 x 1-inch, at a 4-inch spacing between rack positions. Single racks accommodate 1 full-size sheet pan per rack position.

Proposed V2.2

Double-Width Rack: Double racks shall accommodate 30 full-size sheet pans measuring 18 x 26 x 1-inch, at a 4-inch spacing between rack positions. Double racks accommodate 2 full-size sheet pan per rack position.



Scope

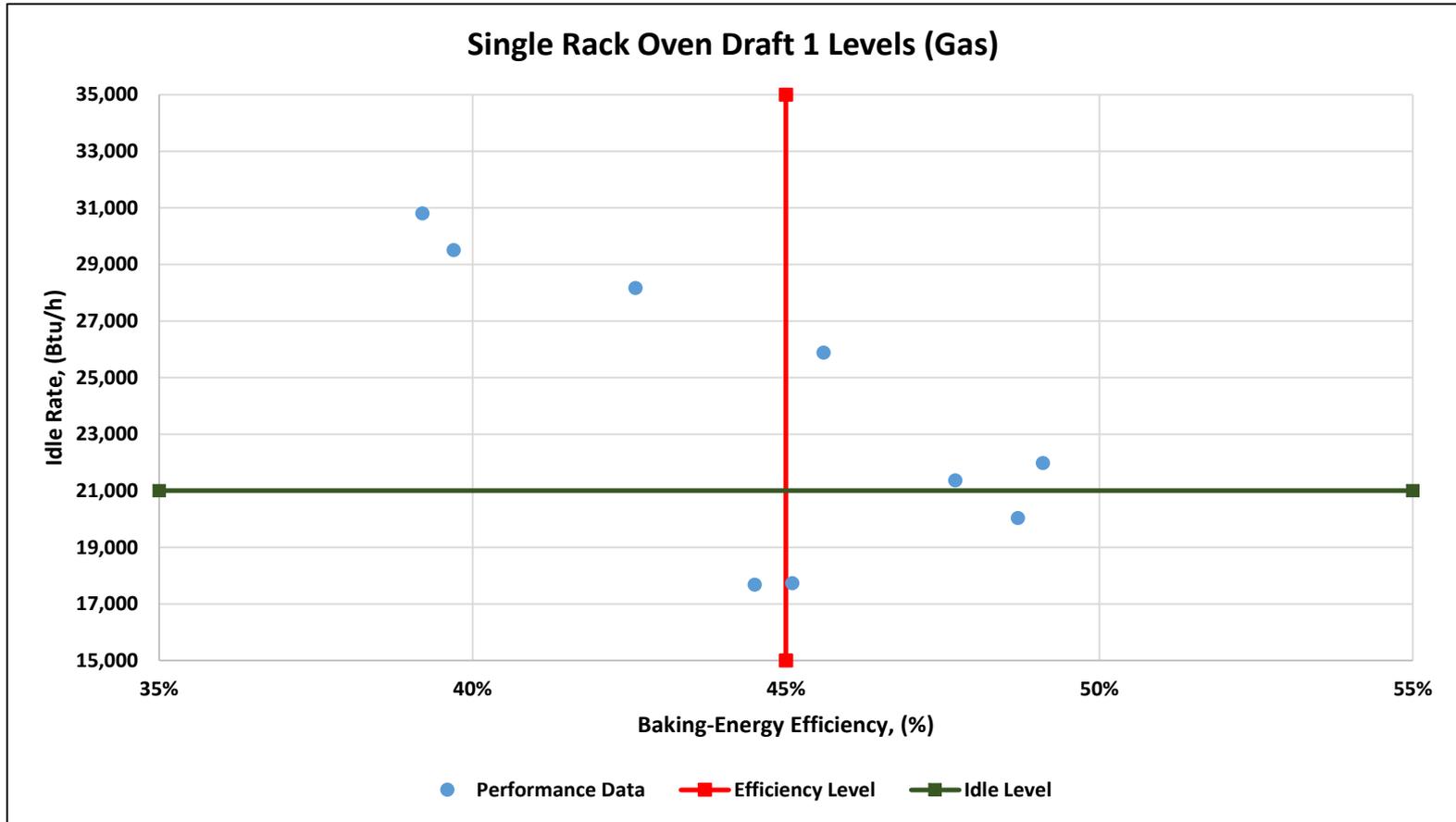
(New) Included Products

Proposed V2.2

- Single, gas rack ovens
- Double, gas rack ovens

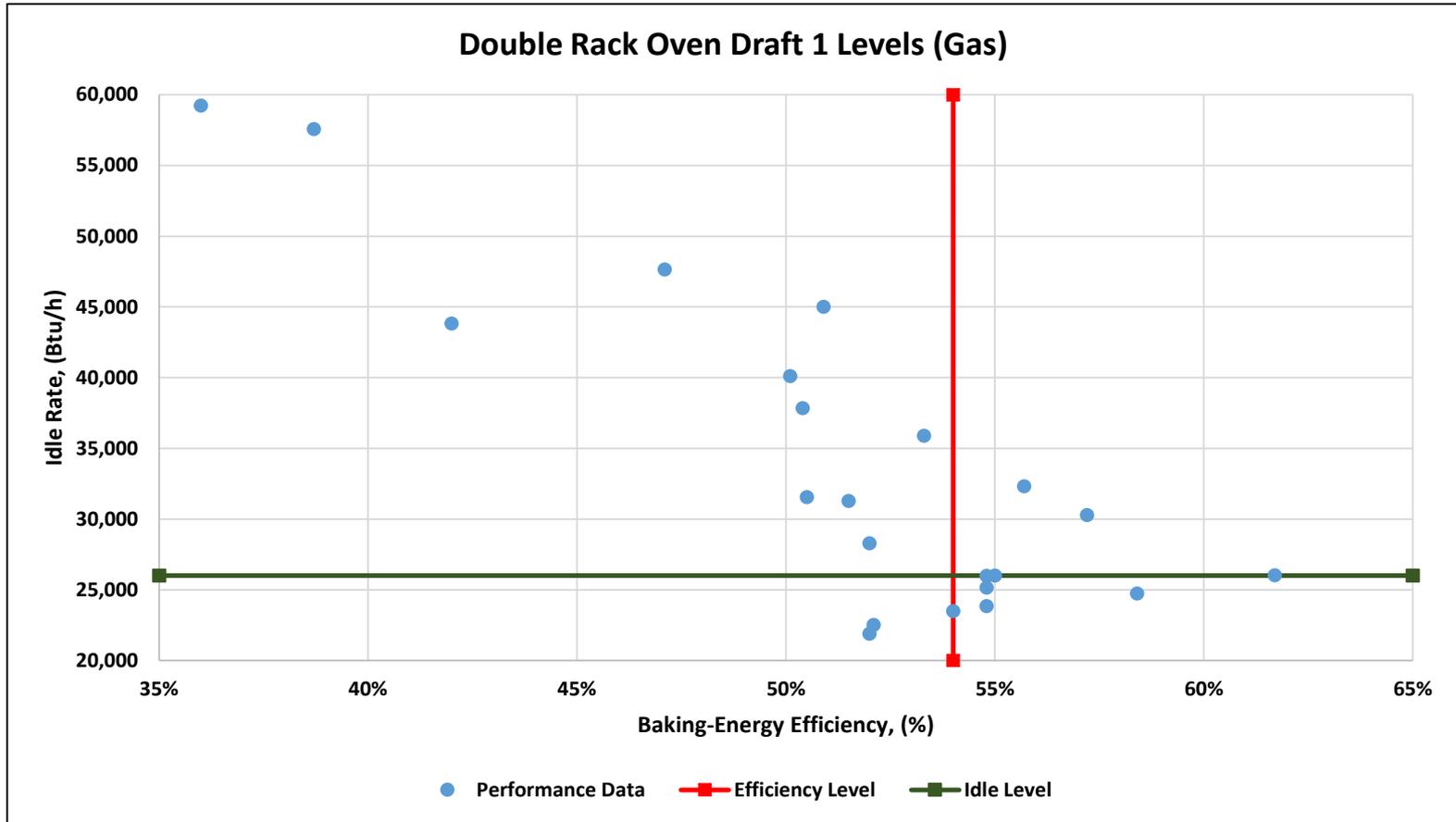
Excluded Products

- Mini, gas rack ovens
- Quadruple, gas rack ovens
- Electric rack ovens



Idle Energy Rate: 21,000 Btu/h

Baking-Energy Efficiency: 45%



Idle Energy Rate: 26,000 Btu/h

Baking-Energy Efficiency: 54%



Test Requirements

- ASTM F1496-13, *Standard Test Method for Performance of Convection Ovens*
- ASTM F2861-14, *Standard Test Method for Performance of Combination Ovens*
- **(New) ASTM F2093-11, *Standard Test Method for Performance of Rack Ovens***



General Discussion & Questions?



Draft 1 Proposed Reporting Requirements

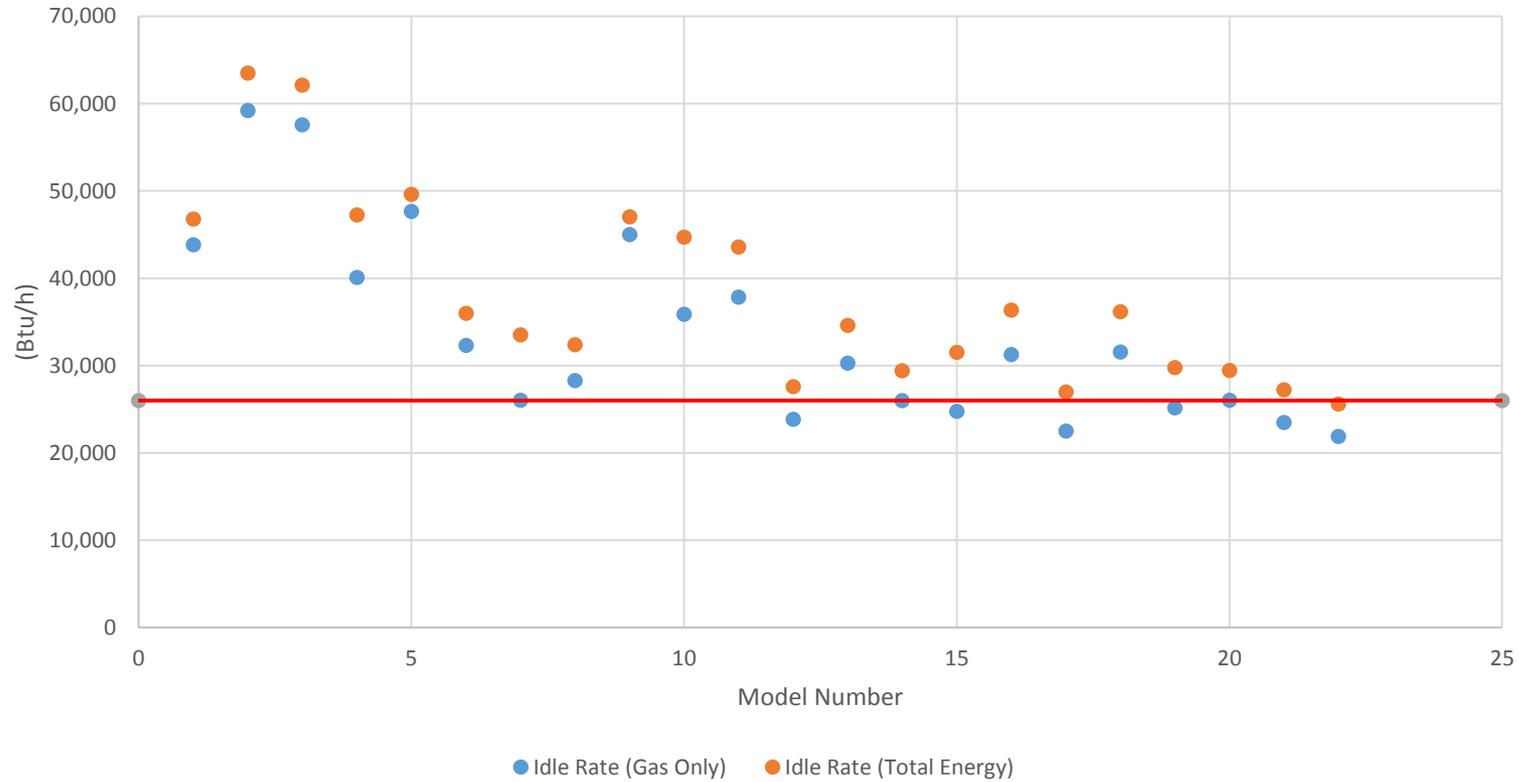
- When determining gas idle rate, the electric energy consumption shall not be taken into consideration.
- Electric idle energy rate shall be reported separately.

Potential Path Forward

- Electric idle rate for gas ovens was historically a reporting requirement for ovens
- Draft 1 V2.2 proposed continuing as a reporting requirement
- Upon further review, EPA identified the significant impact electric energy had on the total idle rate for gas rack ovens



Total Idle Energy vs. Gas-Only Idle Energy





Discussion Questions

- What concerns do you have, if any, about this specification proposal?
- What concerns do you have, if any, about the potential for this specification to influence the market?
- What additional information, if any, should be collected?



Revision Timeline: Target Dates

- Draft 1 Comments Due: June 5, 2015
- Draft 2: June 12, 2015
- Draft 2 Comments Due: July 6, 2015
- Final Draft: July 12, 2015
- Final Draft Comments Due: July 26, 2015
- Final: **August 1, 2015**

Thank You!

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