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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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
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

Source: 2015 ENERGY STAR Data Book
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.
Today, this little blue label does all the hard work of certifying outstanding energy efficiency in:

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

Buildings and Plants Across

24 Industries
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

- **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

- **Heating & Cooling**
  - Central AC
  - Heat pumps
  - Boilers
  - Furnaces
  - Ceiling fans
  - Room AC
  - Ventilating fans
  - Water Heaters

- **Home Envelope**
  - Roof products
  - Windows/Doors
  - Pool pumps

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

- **Appliances**
  - Clothes washers
  - Dishwashers
  - Refrigerators
  - Dehumidifiers
  - Air cleaners
  - Water coolers
  - Dryers
How it works:

- Consumer Preferences
- Environmental Protection
- Manufacturer/Retailer Interests
- Utility Program Sponsor Interests

Cost-effective
No Sacrifice in Performance
Government backed
Consumer is Key
ENERGY STAR’s Third-Party Certification Process

1. Entities apply to become EPA-recognized laboratories, certification bodies, or accreditation bodies.
2. Manufacturers test products with EPA-recognized laboratory or manufacturer lab (W/SMTL).
3. EPA-recognized certification body reviews data & certifies performance.
4. EPA lists qualified models on website and partners market as ENERGY STAR qualified.

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

- Idle Rate (Gas Only)
- Idle Rate (Total 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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