



ENERGY STAR® Boilers Version 3.0 Specification Partner Training May 14, 2014

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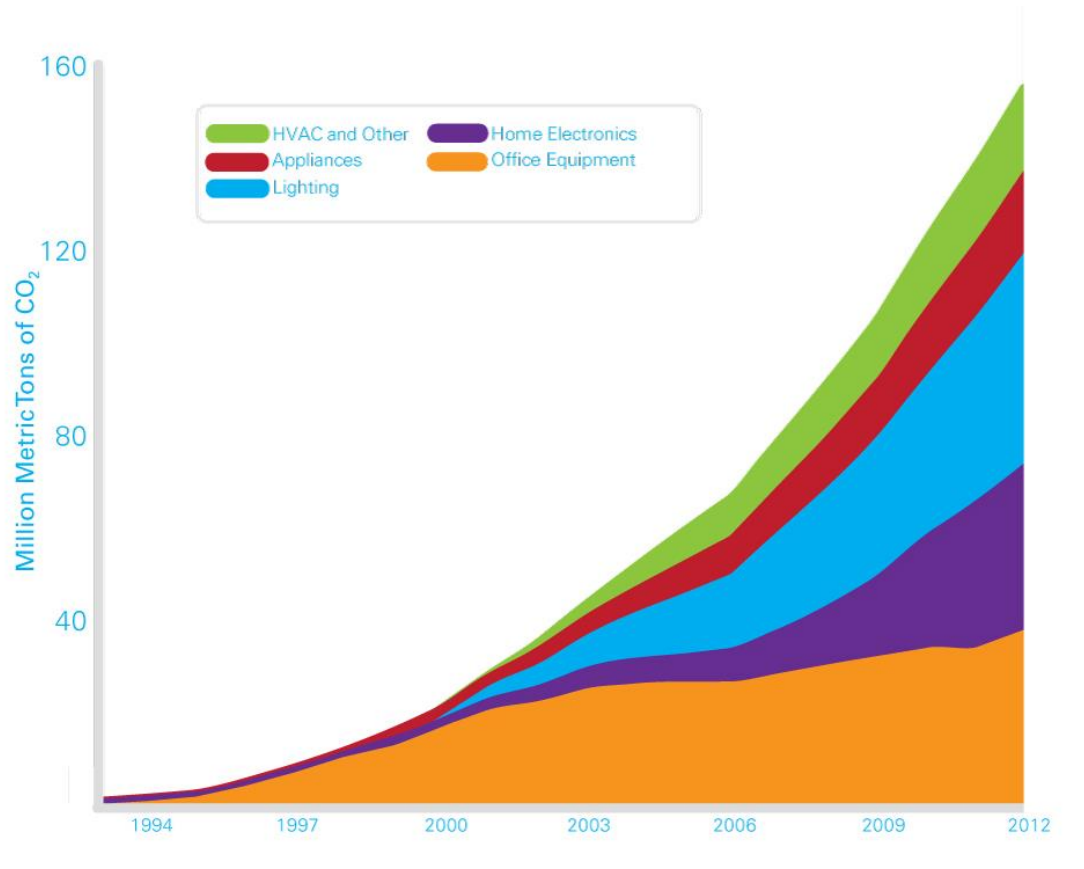
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What Is ENERGY STAR?



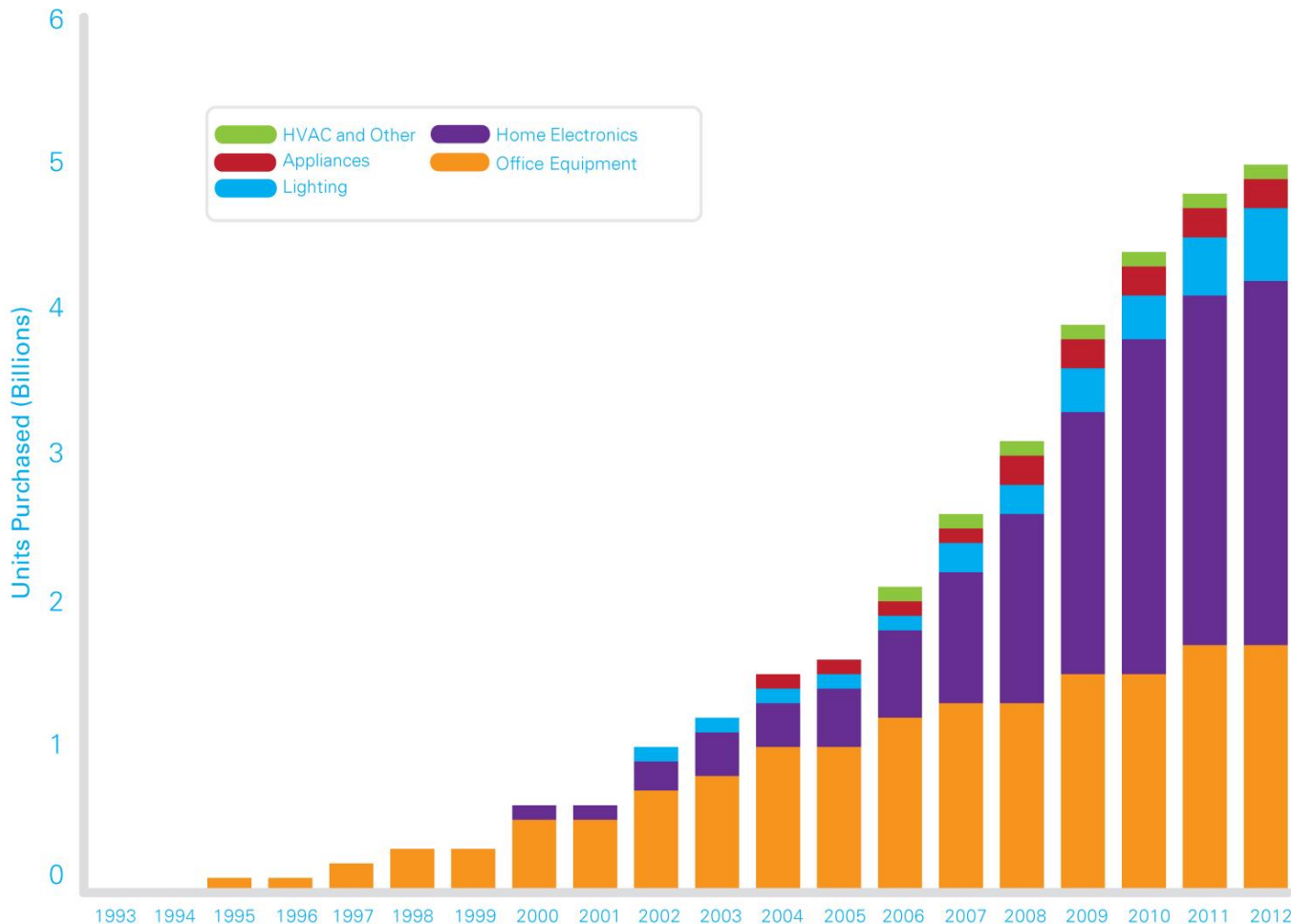
- Voluntary climate protection partnership with the U.S. Environmental Protection Agency (EPA)
- Strategic approach to energy management, promoting energy efficient products and practices
- Tools and resources to help save money and protect the environment
- Influential brand recognized by over 85 percent of Americans

ENERGY STAR Accomplishments: Annual Greenhouse Gas Emissions Avoided



As of 2012, EPA estimates that ENERGY STAR products prevent more than 150 million metric tons of greenhouse gas emissions annually. More than 200 billion kilowatt hours (kWh) of electricity is saved per year, which represents 15 percent of U.S. residential electricity use. These savings have offset the need for more than 185 additional power plants.

ENERGY STAR Accomplishments: ENERGY STAR Products Sold (Cumulative)*



Since the program's inception, thousands of individuals from more than 2,200 manufacturing companies, 1,600 retailers, 800 energy efficiency programs and the federal government have worked under the ENERGY STAR banner to define, build and create both supply, and demand for energy-efficient products. Over the past 20 years, Americans have purchased a total of more than five billion ENERGY STAR products.

**The lighting data do not include CFL sales. Product sales may not appear in every year a category was included in the program due to scale.*

What Makes ENERGY STAR A Successful Product Label?

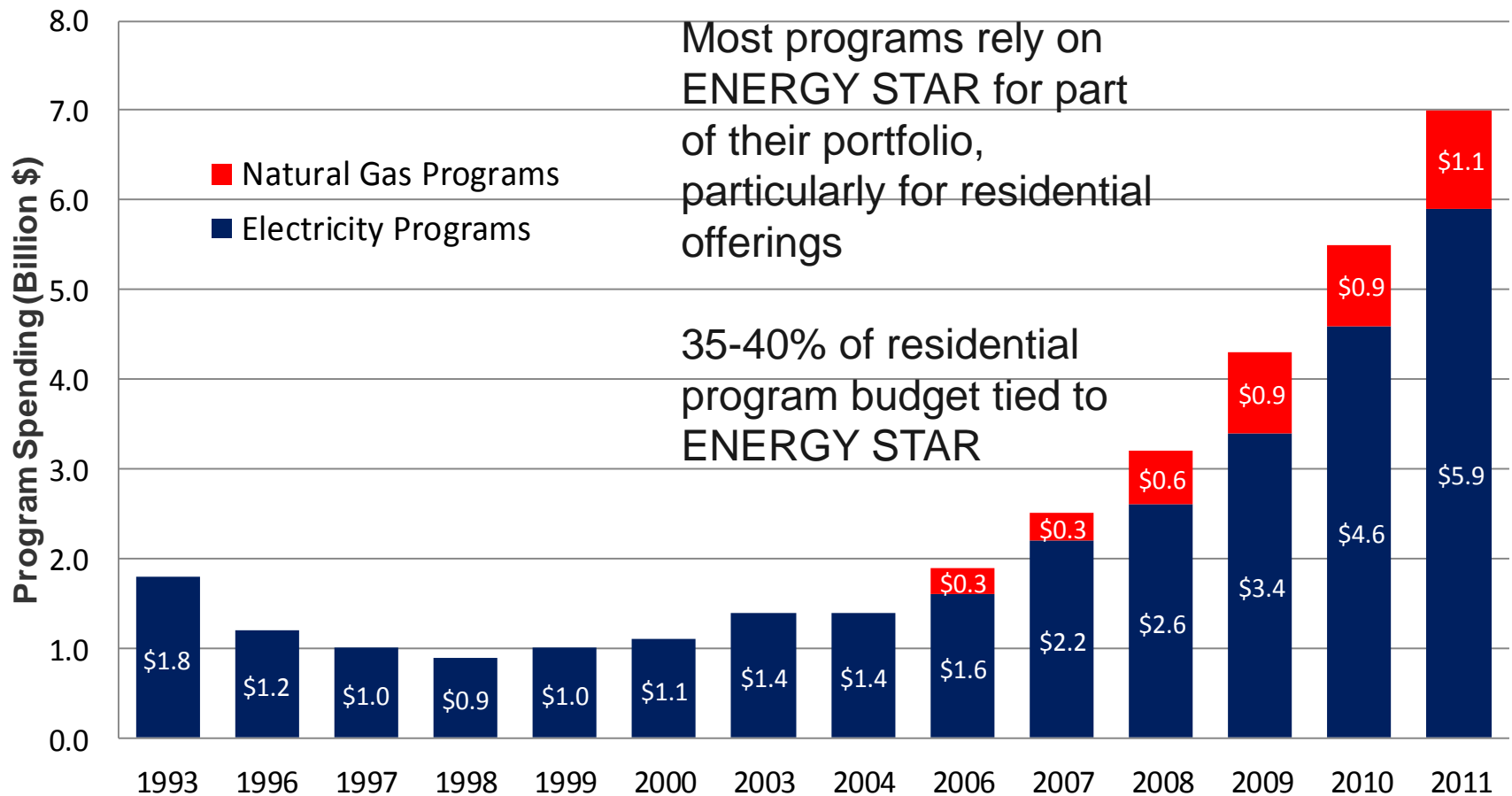


- Commitment to core principles
- Focus on integrity
- Systematic approach
 - Data-based
 - Transparent
- Wide ranging set of program partners
 - Retailers, manufacturers, utilities and other efficiency program sponsors, environmental groups, international partners
 - Re-enforcing value proposition
- Effective educational message

Growing Program Resources



State-Level Energy Efficiency Program Spending or Budgets by Year



Source: ACEEE 2012 State Energy Efficiency Scorecard

*All values are actual program spending (EIA Form 861) except for 2009, 2010, and 2011, which are budgets (CEE Annual Industry Reports).

Retailers: A Critical Consumer Touch Point



- Retailers benefit from ENERGY STAR:
 - Labeling products in-store and online
 - Integrating ENERGY STAR into promotions online, in-store, and direct mail
 - Holding customer-focused events
 - Promoting Team ENERGY STAR and the ENERGY STAR Campaign through in-store events



Retailer Events



Earth Day Search for Savings

Ready, Set, Search!

Kids!
Search the store with your parents and check off these items as you find them!

- ☐ CFL
- ☐ toilet
- ☐ clothes washer
- ☐ faucet
- ☐ window
- ☐ showerhead

Parents!
Lowe's sells a wide variety of products that have earned the EPA's **ENERGY STAR** and **WaterSense** labels, which save you energy, water, money and, of course, the earth, too!

Did you know?

CFLs: These breath CO_2 —a greenhouse gas—do they help prevent climate change! If every home in America changed just 2 regular light bulbs to ENERGY STAR compact fluorescent light bulbs (CFLs), it would be like a huge forest of more than 4.5 million acres of trees breathing in harmful CO_2 and fighting climate change.

TOILETS: Don't use your toilet as a wastebasket by flushing tissues. Eliminating just one flush per day can save nearly 1,300 gallons per year, or enough to wash about 32 loads of laundry!

CLOTHES WASHERS: An ENERGY STAR qualified clothes washer saves energy, water and money—up to \$50 per year. That's enough to go to your favorite movie with 5 friends!

FAUCETS: Just by turning off the tap while you brush your teeth in the morning and before bedtime, you can save up to 8 gallons of water. That adds up to more than 200 gallons a month, enough to fill a huge fish tank that holds 6 small sharks!

WINDOWS: Did you know that old windows and doors leak so much air that it's like having a window open all the time? Think about that in the cold winter or hot summer. Not good. You'll be much more comfortable with ENERGY STAR windows, and you'll save money, too!

SHOWERHEADS: Taking a shower uses much less water than filling up a bathtub. A shower only uses 10 to 25 gallons, while a bath takes three times that. So take showers—and don't just hang out in the shower. And, if you really want to take a bath, be sure to plug the drain right away and adjust the temperature as you fill the tub.

Brought to you by **LOWE'S**

- Lowe's engaged youth via its Build and Grow clinics to promote ENERGY STAR.



Retailers in Social Media

- The Home Depot created an appliances infographic that was featured on their blog and Pinterest as well as a decorative light string infographic that was used to promote an in-store trade-in event.



TEAM ENERGY STAR



- Partnered with Universal Studios' Dr. Seuss' The Lorax Movie
 - PSA garnered 45 placements in national publications (28.3 million circulation, publicity value of \$1.9 million)
 - More than 10,000 children participated
 - Highlighted on Times Square billboard on ENERGY STAR Day
- Boys and Girls Club of America
- PTO Today (parent teacher organization)

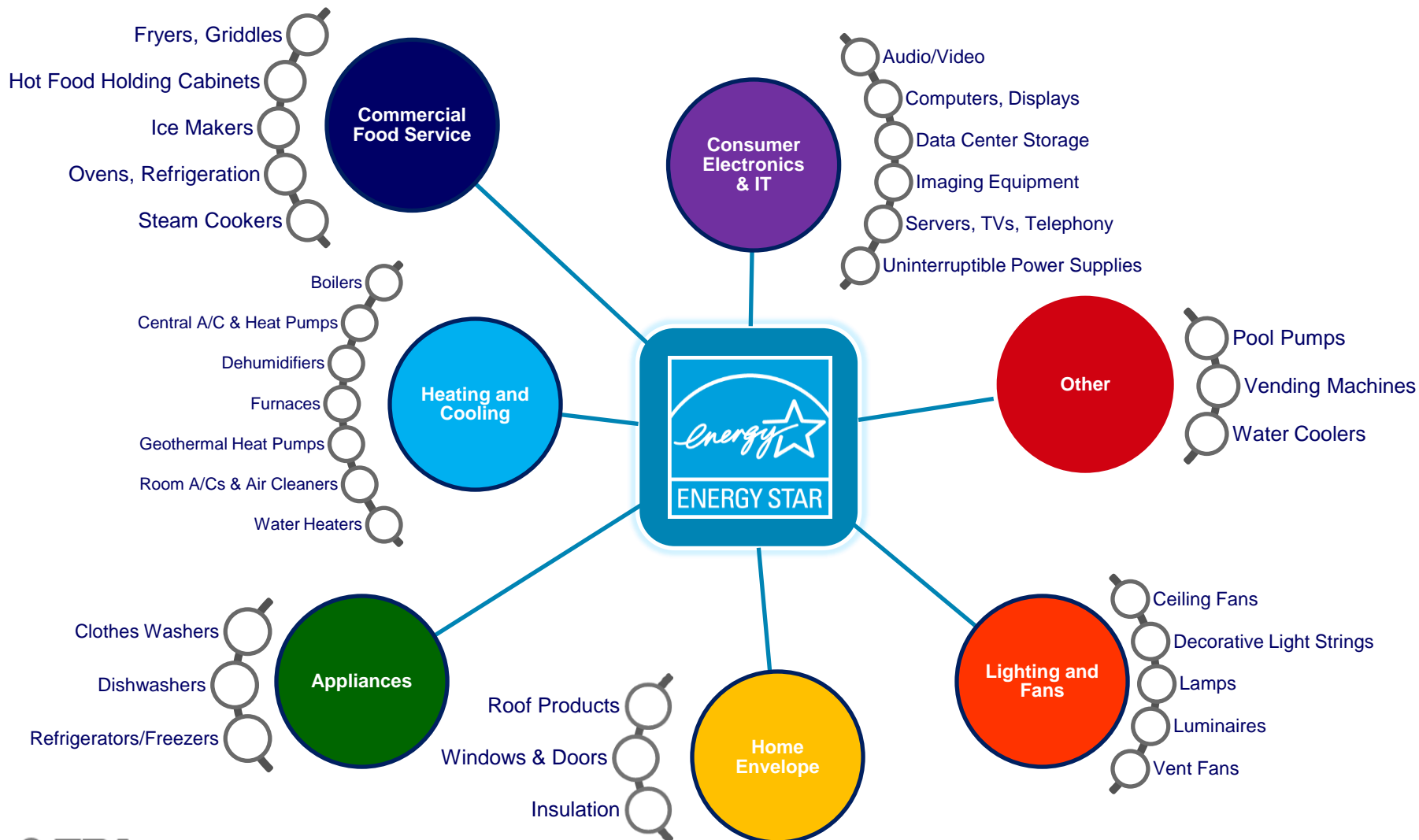


ENERGY STAR Products



- Label identifying efficient products in more than 70 categories
 - Appliances, electronics, HVAC, lighting, commercial food service equipment
- Leader in efficiency metrics and test procedures
- Platform for changing behavior
- Influential consumer brand
 - 85% awareness
 - 72% of purchasers report the label is influential
 - 82% of purchasers would recommend ENERGY STAR to a friend

70 Product Categories Are Covered by ENERGY STAR in the US, such as:



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ENERGY STAR's Third-Party Certification Process



January 2011: ENERGY STAR Labeled Products Program moved from self-certification to third-party certification.

Entities apply to become EPA-recognized laboratories, certification bodies, or accreditation bodies



Manufacturers test products with EPA-recognized laboratory or manufacturer lab (W/SMTL)



EPA-recognized certification body reviews test report & certifies performance



EPA lists certified models on its website, and partners market products as ENERGY STAR certified

Details available at www.energystar.gov/3rdpartycert

Partner Responsibilities



- **Work with EPA-recognized certification body (CB) to certify to V3.0**
 - Testing must be conducted at an EPA-recognized laboratory
 - EPA-recognized CBs and Laboratories can be found [here](#)
- **Cooperate with product verification, challenge testing, and outcomes**
 - Comply with CB efforts to procure and test products
 - Submit product control measures to address product testing failures
 - Update product availability information with CB
- **Submit Unit Shipment Data**

Timeline



December 20, 2013: Boilers V3.0 available for certification

May 15, 2014: CBs may no longer certify to V2.1, but existing certifications remain valid until October 1, 2014

October 1, 2014: All products must meet V3.0, and only V3.0 will appear on the qualified products list (QPL)

Product Finder Tool



ENERGY STAR Product Finder Tool:

<http://www.energystar.gov/productfinder>

- Search product by model number and additional model information
- Compare model criteria side-by-side
- Download full Excel version of the QPL
- Manufacturers are encouraged to review their listing (and contact their CB for any discrepancies)

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Significant Changes Between V2.1 and V3.0



- **Qualification Criteria**
 - AFUE level raised for both Gas and Oil Boilers
- **Combined space-heating and water-heating appliances**
 - Metrics - Combined Appliance Annual Fuel Utilization Efficiency (CAafue) metric requirement removed
 - Test Method - CAafue test method is removed
 - Definitions - CAafue definition is removed
- **Rounding and Sampling Requirements**
 - Updated to be consistent with DOE requirements

Qualification Criteria



Performance Criteria for ENERGY STAR Certified Boilers

Fuel Type	Annual Fuel Utilization Efficiency (AFUE)
Gas	90%
Oil	87%

- Gas – AFUE for gas boilers raised to condensing level.
- Oil – AFUE for oil boilers raised to near-condensing level.

Combination Appliances



- Use of CAafue metric removed
- Accordingly, reference to the CAafue test method is removed
- Combination appliances should be tested for AFUE using the federal test method, 10 CFR 430 Subpart B, Appendix N

Rounding Requirements



- Rounding requirements updated to be consistent with the U.S. Department of Energy (DOE) requirements
- AFUE shall be rounded to the nearest whole integer, as specified in 10 CFR 430.23(n)(2).
 - For example, 95.3% shall be rounded to 95% AFUE and 95.5% shall be rounded to 96% AFUE.

Sampling Requirements



- Sampling requirements updated to be consistent with DOE requirements
- Manufacturers have the following sampling plan options available for certification:
 - A single unit is selected, obtained, and tested, or
 - Units are selected for testing and results calculated according to the sampling requirements defined in 10 CFR Part 429, Subpart B § 429.18
- Verification testing sampling is based on how products are certified ([Directive 2011-06](#))

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Useful Web Links



- ENERGY STAR Product Finder:
 - <http://www.energystar.gov/productfinder>
- ENERGY STAR Product Specification:
 - <http://www.energystar.gov/products/specs>
- ENERGY STAR Partner Resources:
 - <http://www.energystar.gov/partners>
- ENERGY STAR Third Party Certification:
 - <http://www.energystar.gov/3rdpartycert>

Contact Information



Please send all questions to:

- Certification: Certification@energystar.gov
- Technical Assistance: Boilers@energystar.gov

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