



ENERGY STAR® Program Requirements for Residential Water Heaters

Partner Commitments

Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing of ENERGY STAR qualified residential water heaters. The ENERGY STAR PARTNER must adhere to the following program requirements:

- Comply with current ENERGY STAR Eligibility Criteria, defining the performance criteria that must be met for use of the ENERGY STAR certification mark on water heaters and specifying the testing criteria for water heaters. At its discretion, DOE may conduct tests on products that are referred to as ENERGY STAR qualified. These products may be obtained on the open market, or voluntarily supplied by PARTNER at DOE's request;
- Comply with current ENERGY STAR Identity Guidelines, describing how the ENERGY STAR marks and name must be used. PARTNER is responsible for adhering to these guidelines and for ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance;
- Qualify at least one ENERGY STAR qualified water heater model within one year of activating the water heaters portion of the agreement. When PARTNER qualifies the product, it must meet the criteria in effect at that time;
- Provide clear and consistent labeling of ENERGY STAR qualified water heaters. The ENERGY STAR certification mark must be clearly displayed on the top/front of the product (on product labels, and/or as a permanent mark), on the manufacturer's Internet site where information about ENERGY STAR qualified models is displayed, and in product literature (i.e., user manuals, spec sheets, etc.).
- Provide to DOE, on an annual basis, an updated list of ENERGY STAR qualified water heater models. Once the PARTNER submits its first list of ENERGY STAR labeled water heater models, the PARTNER's company name will be listed as an ENERGY STAR PARTNER. PARTNER must provide qualified model list updates at least once per year in order to remain on the list of participating product manufacturers;
- Provide to DOE, on an annual basis, unit shipment data or other market indicators to assist in determining the market penetration of ENERGY STAR qualified water heaters. Specifically, PARTNER must submit the total number of ENERGY STAR qualified water heaters shipped (in units by model) or an equivalent measurement as agreed to in advance by DOE and PARTNER.

PARTNER is also encouraged to provide ENERGY STAR qualified unit shipment data segmented by meaningful product characteristics (e.g., capacity, EF, FHR, GPM, SF, or other as relevant), total unit shipments for each model in its product line, and percent of total unit shipments that qualify as ENERGY STAR. The data for each calendar year should be submitted to DOE's contractor, preferably in electronic format, no later than the month of March and may be provided directly from the Partner or through a third party. The data will be used by DOE only for program evaluation purposes and will be closely controlled. Any information used will be masked by DOE to protect the confidentiality of the PARTNER;

- Notify DOE of a change in the designated responsible party or contacts for water heaters within thirty days.

Performance for Special Distinction

In order to receive additional recognition and/or support from DOE for its efforts within the Partnership, the ENERGY STAR PARTNER may consider the following voluntary measures and should keep DOE informed on the progress of these types of efforts:

- Consider energy efficiency improvements in company facilities and pursue to benchmark their buildings through the ENERGY STAR Buildings program;
- Purchase ENERGY STAR qualified products. Revise the company purchasing or procurement specifications to include ENERGY STAR. Provide procurement officials' contact information to DOE for periodic updates and coordination. Circulate general ENERGY STAR qualified product information to employees for use when purchasing products for their homes;
- Ensure the power management feature is enabled on all ENERGY STAR qualified monitors in use in company facilities, particularly upon installation and after service is performed;
- Provide general information about the ENERGY STAR program to employees whose jobs are relevant to the development, marketing, sales, and service of current ENERGY STAR qualified product models;
- Feature the ENERGY STAR mark(s) on PARTNER web site and in other promotional materials. If information concerning ENERGY STAR is provided on the PARTNER web site, DOE may provide links where appropriate to the PARTNER web site;
- Provide a simple plan to DOE outlining specific measures PARTNER plans to undertake beyond the program requirements listed above. By doing so, DOE may be able to coordinate, communicate, and/or promote PARTNER's activities, provide a DOE representative, or include news about the event in the ENERGY STAR newsletter, on the ENERGY STAR web pages, etc. The plan may be as simple as providing a list of planned activities or planned milestones for which the PARTNER would like DOE to be aware. For example, activities may include:
 - (1) Increase the availability of ENERGY STAR qualified products by converting an entire product line within a certain timeframe (ex. two years) to meet ENERGY STAR criteria;
 - (2) Demonstrate the economic and environmental benefits of energy efficiency through special in-store displays;
 - (3) Provide information to users (via the web site and user's manual) about energy-saving features and operating characteristics of ENERGY STAR qualified products, and
 - (4) Build awareness of the ENERGY STAR Partnership and brand identity by collaborating with DOE on a print advertorial and/or live press event;
- Provide quarterly, written updates to DOE as to the efforts undertaken by PARTNER to increase availability of ENERGY STAR qualified products, and to promote awareness of ENERGY STAR and its message.



ENERGY STAR® Program Eligibility Criteria for Residential Water Heaters *as of January 5, 2009*

Below are the product criteria for ENERGY STAR qualified water heaters. A product must meet all of the identified criteria to be labeled as ENERGY STAR qualified by its manufacturer.

1) **Definitions:**

- a) **Energy Factor (EF):** Energy Factor is the ratio of useful energy output from the water heater to the total amount of energy delivered to the water heater. EF is determined by the DOE test procedure, Code of Federal Regulations, Title 10, Section 430.
- b) **Solar Fraction (SF):** Solar Fraction is the energy delivered by the system divided by the electrical or gas energy put into the system. SF is determined by the rating conditions outlined in the OG-300 standard developed by the Solar Rating and Certification Corporation (SRCC).
- c) **First-Hour Rating (FHR):** FHR is the amount of hot water in gallons a storage water heater can supply per hour (starting with a tank full of hot water).
- d) **Gallons per Minute (GPM):** GPM is the amount of hot water in gallons a tankless water heater can supply per minute over a 77°F rise.
- e) **Manufacturer Limited Warranty:** Manufacturer limited warranty is an assurance by the PARTNER that purchased system equipment and components are warranted for a certain required period-of-time, depending on the technology. PARTNER is to comply with the warranty requirements as standard for all ENERGY STAR qualified models of a given technology. ENERGY STAR can request the PARTNER to submit warranty documentation at any time. The exact terms of the limited warranty, given the minimum requirements, shall be determined by the PARTNER.

2) **Qualifying Products:** The following residential water heater product classes are eligible for ENERGY STAR:

ENERGY STAR Residential Water Heater Product Classes		
Storage	Gas-fired	A nominal input of 75,000 BTU/hour or less and a rated storage volume from 20 to 100 gallons.
	Heat Pump	A maximum current rating of 24 amperes, voltage no greater than 250 volts, and a transfer of thermal energy from one temperature to a higher temperature level for the purpose of heating water. Unit must have "integrated" or "drop-in" configuration.
	Tabletop	A box enclosure designed to slide into a kitchen countertop space and dimensions of 36 inches high, 25 inches deep and 24 inches wide.
Tankless	Gas-fired	A nominal input of over 50,000 BTU/hour up to 200,000 BTU/hour and a rated storage volume of 2 gallons or less.
Solar	Gas or Electric	OG-300 rating from the SRCC.

- 3) **ENERGY STAR Criteria:** Only those products listed in Section 2 that meet the criteria below may qualify as ENERGY STAR.

ENERGY STAR Criteria	Energy Factor	First-Hour Rating	Warranty	Safety
GAS STORAGE (ENDING 8/31/2010)	EF \geq 0.62	FHR \geq 67 gallons per hour	Warranty \geq 6 years on sealed system	ANSI Z21.10.1/CSA 4.1
GAS STORAGE (BEGINNING 9/1/2010)	EF \geq 0.67	FHR \geq 67 gallons per hour	Warranty \geq 6 years on sealed system	ANSI Z21.10.1/CSA 4.1

ENERGY STAR Criteria	Energy Factor	Gallons-Per-Minute	Warranty	Safety
WHOLE-HOME GAS TANKLESS	EF \geq 0.82	GPM \geq 2.5 over a 77°F rise	Warranty \geq 10 years on heat exchanger and 5 years on parts	ANSI Z21.10.1/CSA 4.1 or ANSI Z21.10.3/CSA 4.3, depending on burner size

ENERGY STAR Criteria	Energy Factor	First-Hour Rating	Warranty	Safety
GAS CONDENSING	EF \geq 0.8	FHR \geq 67 gallons per hour	Warranty \geq 8 years on sealed system	ANSI Z21.10.1/CSA 4.1

ENERGY STAR Criteria	Energy Factor	First-Hour Rating	Warranty	Safety
HEAT PUMP WATER HEATER	EF \geq 2.0	FHR \geq 50 gallons per hour	Warranty \geq 6 years on sealed system	UL 174 and UL 1995

ENERGY STAR Criteria	Solar Fraction	Warranty	Safety
SOLAR WATER HEATER	SF \geq 0.5	Warranty \geq 10 years on solar collector, 6 years on storage tank, 2 years on controls and 1 year for piping and parts.	OG-300 Certification from the SRCC.

- 4) **Test Criteria:** Water heater manufacturers must self-test their equipment in an accredited facility according to the DOE test procedure defined in Title 10, Code of Federal Regulations, Chapter 11, Part 430, Subpart B or in accordance with OG-300 rating conditions by the SRCC.
- 5) **Effective Date:** The effective date of the criteria is January 1, 2009. A manufacturer has one year after signing the Partnership Agreement to ensure that the ENERGY STAR label appears directly on at least one ENERGY STAR qualified water heater model.
- 6) **Future Criteria Revisions:** ENERGY STAR reserves the right to change the criteria should technological and/or market changes affect its usefulness to consumers, industry, or the environment. Keeping with current policy, industry/stakeholder discussions will impact revisions to the criteria.