



ENERGY STAR® Program Requirements for Residential Electric Cooking Products

Partner Commitments

Following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacture and labeling of ENERGY STAR certified products. The ENERGY STAR Partner must adhere to the following partner commitments:

Certifying Products

1. **Comply with current ENERGY STAR Eligibility Criteria**, which define performance requirements and test procedures for residential electric cooking products. A list of eligible products and their corresponding Eligibility Criteria can be found at www.energystar.gov/specifications.
2. **Prior to associating the ENERGY STAR name or mark with any product**, obtain written certification of ENERGY STAR certification from a Certification Body recognized by EPA for residential electric cooking products. As part of this certification process, products must be tested in a laboratory recognized by EPA to perform residential electric cooking products testing. A list of EPA-recognized laboratories and Certification Bodies can be found at www.energystar.gov/testingandverification.

Using the ENERGY STAR Name and Marks

3. Comply with current ENERGY STAR Brand Book, which define how the ENERGY STAR name and marks may be used. Partner is responsible for adhering to these guidelines and ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance. The ENERGY STAR Brand Book is available at www.energystar.gov/logouse.
4. Use the ENERGY STAR name and marks only in association with certified products. Partner may not refer to itself as an ENERGY STAR Partner unless at least one product is certified and offered for sale in the U.S. and/or ENERGY STAR partner countries.
5. Provide clear and consistent labeling of ENERGY STAR certified residential electric cooking products.
 - 5.1. The ENERGY STAR mark must be clearly displayed on the top/front of the product, in product literature (i.e., user manuals, spec sheets, etc.), on product packaging, and on the manufacturer's Internet site where information about ENERGY STAR certified models is displayed.

Verifying Ongoing Product Certification

6. Participate in third-party verification testing through a Certification Body recognized by EPA for residential electric cooking products, providing full cooperation and timely responses. EPA/DOE may also, at its discretion, conduct tests on products that are referred to as ENERGY STAR certified. These products may be obtained on the open market, or voluntarily supplied by Partner at the government's request.

Providing Information to EPA

7. Provide unit shipment data or other market indicators to EPA annually to assist with creation of ENERGY STAR market penetration estimates, as follows:
 - 7.1. Partner must submit the total number of ENERGY STAR certified residential electric cooking products shipped in the calendar year or an equivalent measurement as agreed to in advance by EPA and Partner. Partner shall exclude shipments to organizations that rebrand and resell the shipments (unaffiliated private labelers).
 - 7.2. Partner must provide unit shipment data segmented by meaningful product characteristics (e.g., type, capacity, presence of additional functions) as prescribed by EPA.
 - 7.3. Partner must submit unit shipment data for each calendar year to EPA or an EPA-authorized third party, preferably in electronic format, no later than March 1 of the following year.Submitted unit shipment data will be used by EPA only for program evaluation purposes and will be closely controlled. If requested under the Freedom of Information Act (FOIA), EPA will argue that the data is exempt. Any information used will be masked by EPA so as to protect the confidentiality of the Partner.
8. Report to EPA any attempts by recognized laboratories or Certification Bodies (CBs) to influence testing or certification results or to engage in discriminatory practices.
9. Notify EPA of a change in the designated responsible party or contacts within 30 days using the MESA tool available at www.energystar.gov/mesa.

Performance for Special Distinction

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

- Provide quarterly, written updates to EPA as to the efforts undertaken by Partner to increase availability of ENERGY STAR certified products, and to promote awareness of ENERGY STAR and its message.
- Consider energy efficiency improvements in company facilities and pursue benchmarking buildings through the ENERGY STAR Buildings program.
- Purchase ENERGY STAR certified products. Revise the company purchasing or procurement specifications to include ENERGY STAR. Provide procurement officials' contact information to EPA for periodic updates and coordination. Circulate general ENERGY STAR certified product information to employees for use when purchasing products for their homes.
- Feature the ENERGY STAR mark(s) on Partner website and other promotional materials. If information concerning ENERGY STAR is provided on the Partner website as specified by the ENERGY STAR Web Linking Policy (available in the Partner Resources section of the ENERGY STAR website), EPA may provide links where appropriate to the Partner website.
- Ensure the power management feature is enabled on all ENERGY STAR certified displays and computers 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 certified products.
- Provide a simple plan to EPA outlining specific measures Partner plans to undertake beyond the program requirements listed above. By doing so, EPA may be able to coordinate, and communicate Partner's activities, provide an EPA representative, or include news about the event in the ENERGY STAR newsletter, on the ENERGY STAR website, etc. The plan may be as simple as providing a list of planned activities or milestones of which Partner would like EPA to be aware. For example, activities may include: (1) increasing the availability of ENERGY STAR certified products by converting the entire product line within two years to meet ENERGY STAR guidelines; (2) demonstrating the economic and environmental benefits of energy efficiency through special in-store ENERGY STAR Program Requirements for Residential Electric Cooking Products – Partner Commitments

displays twice a year; (3) providing information to users (via the website and user's manual) about energy-saving features and operating characteristics of ENERGY STAR certified products; and (4) building awareness of the ENERGY STAR Partnership and brand identity by collaborating with EPA on one print advertorial and one live press event.

- Join EPA's SmartWay Transport Partnership to improve the environmental performance of the company's shipping operations. The SmartWay Transport Partnership works with freight carriers, shippers, and other stakeholders in the goods movement industry to reduce fuel consumption, greenhouse gases, and air pollution. For more information on SmartWay, visit www.epa.gov/smartway.
- Join EPA's Green Power Partnership. EPA's Green Power Partnership encourages organizations to buy green power as a way to reduce the environmental impacts associated with traditional fossil fuel-based electricity use. The partnership includes a diverse set of organizations including Fortune 500 companies, small and medium businesses, government institutions as well as a growing number of colleges and universities. For more information on Green Power, visit www.epa.gov/greenpower.



ENERGY STAR® Program Requirements Product Specification for Residential Electric Cooking Products

Eligibility Criteria Version 1.0

Following is the **Version 1** product specification for ENERGY STAR certified residential electric cooking products. A product shall meet all of the identified criteria to earn the ENERGY STAR.

1. DEFINITIONS:

- A. Active cooling: the feature by which a conventional electric cooking top cools a cooking zone via an integrated fan after the power to all cooking zones on the cooking top has been turned off.
- B. Active mode¹: a mode in which the product is connected to a mains power source, has been activated, and is performing the main function of producing heat by means of electric resistance heating or electric inductive heating.
- C. Basic model²: all units of a given type of covered product (or class thereof) manufactured by one manufacturer; having the same primary energy source; and, which have essentially identical electrical, physical, and functional characteristics that affect energy consumption or energy efficiency.
- D. Combined electric cooking product¹: a household cooking appliance that combines an electric cooking product with other appliance functionality, which may or may not include another cooking product. Combined electric cooking products include the following products: conventional electric range, microwave/conventional electric cooking top, microwave/conventional electric oven, and microwave/conventional electric range.
- E. Combined low-power mode³ the aggregate of available modes other than active mode, but including the delay start mode portion of active mode.
- F. Conventional electric cooking top²: a category of cooking products which is a household cooking appliance consisting of a horizontal surface containing one or more surface units that utilize electric resistance heating or electric inductive heating. This includes any conventional electric cooking top component of a combined electric cooking product.
- G. Cooking area¹: an area on a conventional electric cooking top surface heated by an inducted magnetic field where cookware is placed for heating, where more than one cookware item can be used simultaneously and controlled separately from other cookware placed on the cooking area, and that may or may not include limitative markings.
- H. Cooking zone¹: a part of a conventional electric cooking top surface that is either a single electric resistance heating element, multiple concentric sizes of electric resistance heating elements, or an inductive heating element that is defined by limitative markings on the surface of the electric cooking top and can be controlled independently of any other cooking area or

¹ Modified from 10 CFR 430, Subpart B, Appendix I1 to limit scope to conventional electric cooking products for ENERGY STAR's purposes.

² Modified from 10 CFR 430 Subpart A, Section 430.2 to limit scope to conventional electric cooking products for ENERGY STAR's purposes.

³ 10 CFR 430, Subpart B, Appendix I1.

cooking zone.

- I. Inactive mode⁴: a standby mode that facilitates the activation of active mode by remote switch (including remote control), internal sensor, or timer, or that provides continuous status display.
- J. Integrated Annual Energy Consumption (IAEC): the sum of the conventional electric cooking top annual active mode energy consumption and the annual combined low-power mode energy consumption of a conventional electric cooking top or any conventional electric cooking top component of a combined electric cooking product.
- K. Minimum-above-threshold power setting⁵: the power setting on a conventional electric cooking top that is the lowest power setting that results in smoothed water temperature data that meet the evaluation criteria specified in Section 7.5.4.1 of IEC 60350–2. This power setting is also referred to as the simmering setting.
- L. Multi-ring cooking zone⁵: a cooking zone on a conventional electric cooking top with multiple concentric sizes of electric resistance heating elements.
- M. Off mode⁴: any mode in which a product is connected to a mains power source and is not providing any active mode or standby function, and where the mode may persist for an indefinite time. An indicator that only shows the user that the product is in the off position is included within the classification of an off mode.
- N. Portable conventional electric cooking top: a conventional electric cooking top designed to be moved from place to place.
- O. Smoothed water temperature⁴: the 40-second moving-average temperature as calculated in 10 CFR 430, Subpart B, Appendix I1 according to Section 7.5.4.1 of IEC 60350-2, rounded to the nearest 0.1 degree Celsius.
- P. Specialty cooking zone⁴: a warming plate, grill, griddle, or any cooking zone that is designed for use only with non-circular cookware, such as a bridge zone. Specialty cooking zones are not tested as part of 10 CFR 430, Subpart B, Appendix I1.
- Q. Standby mode⁴: any mode in which a product is connected to a mains power source and offers one or more of the following user-oriented or protective functions which may persist for an indefinite time:
 - (1) Facilitation of the activation of other modes (including activation or deactivation of active mode) by remote switch (including remote control), internal sensor, or timer;
 - (2) Provision of continuous functions, including information or status displays (including clocks) or sensor-based functions. A timer is a continuous clock function (which may or may not be associated with a display) that allows for regularly scheduled tasks and that operates on a continuous basis.
- R. Time t_{90} ⁴: the first instant during the simmering test on the minimum-above-threshold power setting for each cooking zone at which the smoothed water temperature is greater than or equal to 90°C.

⁴ 10 CFR 430, Subpart B, Appendix I1.

⁵ Modified from 10 CFR 430, Subpart B, Appendix I1 to limit scope to conventional electric cooking products for ENERGY STAR's purposes.

⁴ Modified from 10 CFR 430, Subpart B, Appendix I1 to report a heating time for ENERGY STAR's purposes.

2. SCOPE:

- A. Included Products: Products that meet the definition of a conventional electric cooking top are eligible for ENERGY STAR certification. The following product types are eligible for ENERGY STAR certification:
- Electric cooking top component of conventional electric ranges (a combined electric cooking product)
 - Standalone conventional electric cooking tops (including portable conventional electric cooking tops)
- B. Excluded Products: The following product types are ineligible for ENERGY STAR certification under this specification:
- Commercial or other non-residential products
 - Combined cooking products that include a microwave oven component (*i.e.*, microwave/conventional electric cooking top, microwave/conventional oven, and microwave/conventional electric range)
 - Gas cooking tops, ranges, or standalone ovens
 - Electric standalone ovens
 - Griddles

3. CERTIFICATION CRITERIA:

A. Energy Use Requirement:

Table 1: Energy Use Requirement for Standalone Conventional Electric Cooking Tops	
IAEC	≤ 195 kWh/yr

Table 2: Energy Use Requirements for Combined Electric Cooking Products	
IAEC	≤ 195 kWh/yr
E _{TLP,O} *	≤ 7 kWh/yr

* E_{TLP,O} is the annual combined low-power mode energy consumption of the conventional electric oven component of a combined electric cooking product and is calculated in kWh/year as follows:

$$E_{TLP,O} = [(P_{IA} \times F_{IA}) + (P_{OM} \times F_{OM})] \times K \times S_{TOT} \times H_o$$

Where:

P_{IA}, F_{IA}, P_{OM}, F_{OM}, K, S_{TOT} are as defined in Section 4.2.2 of 10 CFR 430, Subpart B, Appendix I1
H_o is equal to 40% for conventional electric ranges.

B. Significant Digits and Rounding:

- 1) All calculations shall be carried out with directly measured (unrounded) values. Only the final result of a calculation shall be rounded.
- 2) The IAEC value shall be rounded off to the nearest kWh per year. If the calculation is halfway between the nearest two kWh per year values, the IAEC shall be rounded up to the higher of these values.

C. Model Numbers: Model numbers used for ENERGY STAR certified product submissions shall be consistent with any Federal Trade Commission (FTC) and Department of Energy (DOE) submissions.

4. TEST REQUIREMENTS:

- A. One of the following sampling plans shall be used to test energy performance for certification to

ENERGY STAR:

- 1) A representative unit shall be selected for testing based on the definition for basic model provided in Section 1 of this specification; or
 - 2) Units shall be selected for testing per the sampling requirements defined in 10 CFR § 429.23 for cooking products.
- B. When testing energy consumption of residential cooking tops, the following test methods shall be used to determine ENERGY STAR certification:

Cooking Product Category	ENERGY STAR Requirement	Test Method Reference
Standalone Conventional Electric Cooking Tops and Conventional Electric Ranges	Integrated Annual Energy Consumption (IAEC) (kWh/year)	10 CFR 430, Subpart B, Appendix I1 - Uniform Test Method for Measuring the Energy Consumption of Conventional Cooking Products
Conventional Electric Ranges	Annual combined low-power mode energy consumption of the conventional electric oven component of a combined electric cooking product ($E_{TLP,O}$) (kWh/year)	Methodology in 10 CFR 430, Subpart B, Appendix I1 - Uniform Test Method for Measuring the Energy Consumption of Conventional Cooking Products Formulas in Section 3.A. Table 2 of this document.

Note: Partner must ensure the product continues to meet the certification criteria through subsequent firmware, software, or other changes to the certified product, where applicable.

C. Additional Reporting Requirements:

- 1) The total number of cooking zones in the cooking top.
- 2) The maximum power of each cooking zone.
- 3) The size⁵ (in mm) of each cooking zone.
- 4) Annual combined low-power mode energy consumption of the cooking top (E_{TLP})⁶
- 5) Cooking top technology (*i.e.*, coil, radiant, induction)
- 6) Product type (*i.e.*, part of a combined electric cooking product or standalone)
- 7) Installation type (*i.e.*, portable, freestanding, or built-in/slide-in)
- 8) Presence or absence of active mode cooling

5. EFFECTIVE DATE:

- A. Effective Date: This Version 1 ENERGY STAR Residential Electric Cooking Products specification is effective on September 25, 2023. Any product manufactured on or after this date must meet the requirements of this specification in order to be certified as ENERGY STAR. The date of manufacture is specific to each unit and is the date on which a unit is considered to be completely assembled.
- B. Future Specification Revisions: EPA reserves the right to change the specification should technological and/or market changes affect its usefulness to consumers, industry, or the

⁵ Section 3.1.1.1.1 of 10 CFR 430, Subpart B, Appendix I1.

⁶ Section 4.2 of 10 CFR 430, Subpart B, Appendix I1.

environment. In keeping with current policy, revisions to the specification are arrived at through industry discussions. In the event of a specification revision, please note that ENERGY STAR certification is not automatically granted for the life of a product model.