



ENERGY STAR® Program Requirements for Room Air Cleaners

Partner Commitments

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

Qualifying Products

1. Comply with current ENERGY STAR Eligibility Criteria, which define performance requirements and test procedures for room air cleaners. 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 qualification from a Certification Body recognized by EPA for room air cleaners. As part of this certification process, products must be tested in a laboratory recognized by EPA to perform room air cleaner 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 Identity Guidelines, 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 Identity Guidelines are available at www.energystar.gov/logouse.
4. Use the ENERGY STAR name and marks only in association with qualified products. Partner may not refer to itself as an ENERGY STAR Partner unless at least one product is qualified and offered for sale in the U.S. and/or ENERGY STAR partner countries.
5. Provide clear and consistent labeling of ENERGY STAR qualified room air cleaners.
 - 5.1. The ENERGY STAR mark must be clearly displayed on the top/front of the product, on product packaging, in product literature (i.e., user manuals, spec sheets, etc.), and on the manufacturer's Internet site where information about ENERGY STAR qualified models is displayed.
 - 5.2. Partner shall adhere to the following product-specific commitments regarding use of the ENERGY STAR certified mark on qualified products:
 - 5.2.1. An ENERGY STAR disclaimer label, which includes the following statement, shall be placed on the product packaging of ENERGY STAR qualified air cleaners:

“This product earned the ENERGY STAR by meeting strict energy efficiency guidelines set by the US EPA. US EPA does not endorse any manufacturer claims of healthier indoor air from the use of this product.”

The minimum required dimensions for the vertical and horizontal disclaimer labels are 1.5" x 3.5" and 3.5" x 1.5". The graphic shall be scalable if the partner wishes to enlarge it for larger product packaging surfaces. This disclaimer graphic will be available for partners to download on the ENERGY STAR Web site with other ENERGY STAR marks.

5.2.2. In addition to the text provided above, the following statement shall be included in the Instruction Manual that is shipped with the qualified model and on the partner's Web site.

"The energy efficiency of this ENERGY STAR qualified model is measured based on a ratio between the model's CADR for Dust and the electrical energy it consumes, or CADR/Watt."

The placement of this statement shall be in close proximity to the ENERGY STAR mark and any text describing the ENERGY STAR program and/or qualified products.

Verifying Ongoing Product Qualification

6. Participate in third-party verification testing through a Certification Body recognized by EPA for room air cleaners, providing full cooperation and timely responses. EPA/DOE may also, at its discretion, 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 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 qualified room air cleaners 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 My ENERGY STAR Account tool (MESA) 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 qualified 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 qualified 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 qualified 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 qualified 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 qualified 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 qualified 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 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 qualified 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 Room Air Cleaners

Eligibility Criteria Version 1.2

Following is the **Version 1.2** product specification for ENERGY STAR qualified room air cleaners. A product must meet all of the identified criteria if it is to earn the ENERGY STAR.

1) Definitions: Below are the definitions of the relevant terms in this document.

- A. **Room Air Cleaner:** An electric cord-connected, portable appliance with the primary function of removing particulate matter from the air and which can be moved from room to room.
 - 1. **Fan with Filter:** Air cleaner that operates with an electrical source of power and contains a motor and fan for drawing air through a filter(s).
 - 2. **Fan with Filter and Electrostatic Plates:** Air cleaner which operates with a fan and filter(s) that incorporates electrically charged plates or wires to electrostatically collect particulate matter.
 - 3. **Fan Filter with Ion Generator:** Air cleaner that incorporates an ion generator in addition to a fan and filter.
 - 4. **Ion Generator:** Air cleaner that incorporates an ion generator only.
 - 5. **Hybrid:** An air cleaner embodying more than one distinctive cleaning modality.
 - 6. **Combination Product:** An air cleaner that includes a secondary function, other than air cleaning technology, within the same housing such as a humidifier or dehumidifier.
 - 7. **Ozone Generator:** A device intended to reduce or eliminate microorganisms within a room solely by means of introducing ozone into the room environment.
- B. **Clean Air Delivery Rate (CADR):** The measure of the delivery of specified, particulate-free air produced by a household electric, cord-connected room air cleaner. More technically, CADR represents the rate of particulate contaminant reduction in the test chamber when the unit is turned on, minus the rate of natural decay when the unit is not running, times the volume of the test chamber as measured in cubic feet $[(RCR - RND) * V]$. Each type of particulate contaminant receives a test value, which includes: CADR for Dust; CADR for Tobacco Smoke; and CADR for Pollen. **Note:** CADR always measures a unit's performance as a complete system and has no linear relationship to the air movement per se or to the characteristics of any particular filter medium.
- C. **Standby Mode:** The lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when an air cleaner unit is connected to the main electricity supply and used in accordance with the manufacturer's instructions. For purposes of this specification, this is also defined as the mode at which energy is consumed by the air cleaner to support only the secondary consumer features such as: clocks, remote controls, and other programmable functions while the primary function is inactive.
- D. **Standby Power:** The average power in standby mode, measured in Watts.
- E. **Product Family:** All units of a given type, having the same primary energy source, and which have essentially identical electrical, physical, and functional characteristics that affect energy consumption, or energy efficiency.

2) Scope:

- A. Included Products: Products that meet the definition of a Room Air Cleaner as specified herein are eligible for ENERGY STAR qualification, with the exception of products listed in Section 2.B. Qualifying air cleaner models shall produce a minimum 50 CADR for Dust to be considered under this specification.
- B. Excluded Products: Combination products and ozone generators, as defined in Sections 1.A.6 and 7, are not eligible for ENERGY STAR.

Qualification Criteria:

- A. CADR/Watt Requirement: To qualify for ENERGY STAR, calculated CADR/Watt shall be equal to or greater than 2.0 CADR/Watt (Dust).
- B. UL Safety Requirements for Ozone Emitting Models: To qualify for ENERGY STAR, measured ozone shall not exceed 50 parts per billion (ppb).
- C. Standby Power Requirement: To qualify for ENERGY STAR, measured standby power shall not exceed 2 Watts.
- D. Significant Digits and Rounding:
 - a. All calculations shall be carried out with actual measured or observed values. Calculated results shall be rounded using the following principles:
 - **CADR and Energy Consumption and Standby Power**: According to guidance provided in ANSI/AHAM AC-1-2006.
 - **Ozone Generation**: Only the final result of a calculation shall be rounded. Calculated results shall be rounded to the nearest significant digit as expressed in the corresponding specification limit.
 - b. Unless otherwise specified, compliance with specification limit shall be evaluated using exact values without any benefit from rounding.

4) Test Requirements:

- A. A representative model shall be selected for testing per the following requirements:
 - 1) For qualification of an individual product model, the representative model is that model;
 - 2) For qualification of a product family, any model within that product family may be considered the representative model.
- B. The representative model shall be tested for ENERGY STAR qualification. One unit will be selected, obtained, and tested. Because of the inherent statistical variance in counting low density dust particles, manufacturers have the option of testing the unit three times with three different filters. The measured performance (or mean of measured performance) of this unit and of all units sold must be equal to or better than the ENERGY STAR specification requirements.

$$\text{CADR}_{\text{Test}} (\text{CADR}_{\text{Test_Mean}}) \geq \text{ENERGY STAR CADR Criteria}$$

$$\text{Measured Ozone}_{\text{Test}} (\text{Measured Ozone}_{\text{Test_Mean}}) \leq \text{ENERGY STAR Ozone Criteria}$$

$$\text{Standby Power}_{\text{Test}} (\text{Standby Power}_{\text{Test_Mean}}) \leq \text{ENERGY STAR Standby Power Criteria}$$

- C. When testing room air cleaners, the following test methods shall be used to determine ENERGY STAR qualification:

ENERGY STAR Requirement	Test Method Reference
CADR/Watt	ANSI/AHAM AC-1-2006: <i>Method of Measuring the Performance of Portable Household Electric Room Air Cleaners</i>
Ozone Generation	UL 867 Ed. 4.0 <i>Electrostatic Air Cleaners</i>
Standby Power	IEC 62301 Ed. 1.0 <i>Household electrical appliances - Measurement of standby power</i>

- 5) **Effective Date:** The ENERGY STAR Room Air Cleaner specification shall take effect on **July 1, 2004**. To qualify for ENERGY STAR, a product model must meet the ENERGY STAR specification in effect on the model's date of manufacture. The date of manufacture is specific to each unit and is the date on which a unit is considered to be completely assembled.
- 6) **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 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 qualification is not automatically granted for the life of a product model.