



ENERGY STAR® Program Requirements for Dehumidifiers

Partner Commitments

Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing of ENERGY STAR qualified dehumidifiers. 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 dehumidifiers and specifying the testing criteria for dehumidifiers. EPA may, 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 EPA's request;
- comply with current ENERGY STAR Identity Guidelines, describing how the ENERGY STAR marks and name may 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 dehumidifier model within one year of activating the dehumidifiers portion of the agreement. When Partner qualifies the product, it must meet the specification (e.g., Tier 1 or 2) in effect at that time;
- provide clear and consistent labeling of ENERGY STAR qualified dehumidifiers. 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 qualified models is displayed;

NOTE: It is EPA's understanding that over the past few years, dehumidifier manufacturers are increasingly using product packaging as a means to convey product features to consumers in-store. The ENERGY STAR has become the national symbol for energy efficiency, recognized by more than 60% of the American public. As such, the ENERGY STAR mark should be placed in an area of high visibility so that consumers can see that by purchasing and using an ENERGY STAR qualified dehumidifier, they are helping to reduce air pollution. Although manufacturers are not currently required to label product packaging under Version 1.0, EPA proposes to require labeling under this Version 2.0 specification to allow consumers to more easily identify qualified models in-store.

- provide to EPA, on an annual basis, an updated list of ENERGY STAR qualifying dehumidifier models. Once the Partner submits its first list of ENERGY STAR qualified dehumidifier models, the Partner will be listed as an ENERGY STAR Partner. Partner must provide annual updates in order to remain on the list of participating product manufacturers;
- provide to EPA, on an annual basis, unit shipment data or other market indicators to assist in determining the market penetration of ENERGY STAR. Specifically, Partner must submit the total number of ENERGY STAR qualified dehumidifiers shipped (in units by model) or an equivalent measurement as agreed to in advance by EPA and Partner. Partner is also encouraged to provide ENERGY STAR qualified unit shipment data segmented by meaningful product characteristics (e.g., capacity, size, speed, 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 EPA, preferably in electronic format, no later than the following March and may be provided directly from the Partner or through a third party. The data will be used by EPA only for program evaluation purposes and will be closely controlled. Any information used will be masked by EPA so as to protect the confidentiality of the Partner;

- notify EPA of a change in the designated responsible party or contacts for dehumidifiers within 30 days.

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:

- consider energy efficiency improvements in company facilities and pursue the ENERGY STAR mark for buildings;
- 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;
- 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 as specified by the ENERGY STAR Web Linking Policy (this document can be found in the Partner Resources section on the ENERGY STAR Web site at www.energystar.gov), EPA may provide links where appropriate to the Partner Web site;
- 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, communicate, and/or promote Partner's activities, provide an EPA 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 that Partner would like EPA to be aware of. For example, activities may include: (1) increase the availability of ENERGY STAR qualified products by converting the entire product line within two years to meet ENERGY STAR guidelines; (2) demonstrate the economic and environmental benefits of energy efficiency through special in-store displays twice a year; (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 EPA on one print advertorial and one live press event;
- 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.



ENERGY STAR® Program Requirements for Dehumidifiers

Eligibility Criteria

Below is the DRAFT 1 product specification (Version 2.0) for ENERGY STAR qualified dehumidifiers. A product must meet all of the identified criteria if it is to earn the ENERGY STAR.

1) **Definitions:** Below is a brief description of dehumidifiers and other terms as relevant to ENERGY STAR.

A. **Dehumidifier:** A dehumidifier is a self-contained, electrically operated, and mechanically refrigerated encased assembly consisting of (a) a refrigerated surface (evaporator) that condenses moisture from the atmosphere; (b) a refrigerating system, including an electric motor; (c) an air-circulating fan; and (d) means for collecting and/or disposing of the condensate.¹

B. **Capacity:** Capacity refers to water removal capacity at standard test conditions, measured in pints. Capacity will be calculated according to the test procedure listed in Section 4.

NOTE: Product capacity is measured in US pints under this Version 2.0 specification, as opposed to Liters. This change has been made to reflect how dehumidifiers are categorized and sold in the marketplace.

C. **Energy Factor:** The energy efficiency of dehumidifiers will be measured in liters of water removed per kilowatt-hour (kWh) of energy consumed at standard test conditions. This metric is defined as the energy factor. Energy factor will be calculated according to the test procedure listed in Section 4.

2) **Qualifying Products:** Any dehumidifier that meets the definition in Section 1A is eligible for ENERGY STAR. For purposes of this specification, dehumidifiers include the following:

A. **Standard Capacity Dehumidifiers:** Dehumidifiers with daily water-removal capacities up to 75.0 US pints (35.5 Liters).

B. **High Capacity Dehumidifiers:** Dehumidifiers with daily water-removal capacities up to 120.5 US pints (57 Liters).

NOTE: The definition for a standard capacity dehumidifier has been modified slightly under this proposed Version 2.0 specification. Standard capacity dehumidifiers are now those models with a daily water-removal capacity up to 75.0 US pints (35.5 Liters), an increase from 74.0 US pints (35 Liters) in the Version 1.0 specification. This change has been made to (i) reflect rounding of numbers that occurred when converting from Liters to US pints and (ii) take into consideration the change in capacity bin categorizations under this proposed Version 2.0 specification (see Section 3 below for further information).

3) **Energy-Efficiency Specifications for Qualifying Products:** Only those products listed in Section 2 that meet the criteria outlined in Table 1 or Table 2 below may qualify as ENERGY STAR.

¹ Source: *Performance of Dehumidifiers, National Standard of Canada CAN/CSA-C749-94*. Ontario, Canada 1994 (Reaffirmed 2000).

Table 1: Criteria for ENERGY STAR Qualified Standard Capacity Dehumidifiers	
Product Capacity (pints/day)	Energy Factor Under Test Conditions (L/kWh)
≤ 25	≥ 1.20
> 25 to ≤ 35	≥ 1.40
> 35 to ≤ 45	≥ 1.50
> 45 to ≤ 54	≥ 1.60
> 54 to ≤ 75	≥ 1.80

Table 2: Criteria for ENERGY STAR Qualified High Capacity Dehumidifiers	
Product Capacity (pints/day)	Energy Factor Under Test Conditions (L/kWh)
> 75 to ≤ 120.5	≥ 2.25

NOTE: EPA has increased the number of capacity bins from four to six. This change has been made to allow the Energy Factor under Test Conditions for the most common capacity sized models to be differentiated more precisely.

Several different options were investigated by EPA in determining the proposed new Energy Factors presented in Table 1 and 2 above, one of which was proposed by the Association of Home Appliance Manufacturers (AHAM)/Energy Advocates. Each of these options was evaluated to determine their impact on the market in terms of:

- Estimated market penetration;
- Potential energy and environmental savings;
- Number of currently qualified models remaining qualified; and
- Number of existing partners with models that would meet the new requirements.

The Energy Factor for the lowest and highest capacity bins has remained unchanged from the Version 1.0 specification. The four middle capacity bins have increased by 0.1, 0.2, 0.3, and 0.3 L/kWh, respectively.

When developing or revising an ENERGY STAR specification, it is one of EPA's guiding principles to provide value to consumers by enabling them to easily identify energy-efficient products that have earned the ENERGY STAR. To achieve this, specifications are set that may only be met by the most efficient products in the marketplace. This level typically represents approximately the top 25% of products available in the market at the time the specification is initially set. By the March 1, 2006 effective date proposed in Section 5 below, EPA projects the estimated market penetration of ENERGY STAR qualified dehumidifiers to be approximately 22% under the proposed new requirements. Further, each of the existing ENERGY STAR partners has *at least* one model that will continue to qualify under the proposed new Version 2.0 specification.

- 4) **Test Criteria:** Manufacturers are required to perform tests and self-certify those product models that meet the ENERGY STAR guidelines. The test results must be reported to EPA using the Dehumidifier Qualifying Product Information Form.

Tests shall be conducted in accordance with Clauses 4, 5, and 7 of ANSI/AHAM Standard DH-1-2003, except that a watt-hour meter shall be used to measure dehumidifier energy consumption during the capacity rating test. The watt-hour meter shall be accurate within 0.5 percent of the indicated value and have a scale with graduations of 1 watt-hour or less. Energy Factor is to be calculated according to Section 4.2 of CAN/CSA-C749-94 (Reaffirmed 2000).

NOTE: The test criteria under this proposed Version 2.0 specification remains substantively unchanged. The only updates are to ensure that the most recent versions of the relevant standards are referenced.

- 5) Effective Date: The date that manufacturers may begin to qualify products as ENERGY STAR will be defined as the *effective date* of the agreement. The Version 2.0 ENERGY STAR Dehumidifier specification shall go into effect on March 1, 2006. Any previously executed agreement on the subject of ENERGY STAR qualified dehumidifier products shall be terminated effective February 28, 2006.

All products, including models originally qualified under Version 1.0, with a **date of manufacture** on or after **March 1, 2006** must meet the Version 2.0 requirements in order to bear the ENERGY STAR mark. The **date of manufacture** is specific to each unit and is the date (e.g., month and year) on which a unit is considered to be completely assembled.

NOTE: EPA hopes to finalize this Version 2.0 specification by early summer 2005. This will give manufacturers approximately nine months prior to the proposed March 1, 2006 effective date to meet the new requirements set forth under this Version 2.0 specification.

Dehumidifiers manufactured prior to February 28, 2006 and qualified under the Version 1.0 specification can continue to bear the ENERGY STAR mark until they are sold through the marketplace. Any models manufactured on or after March 1, 2006 must meet the requirements set forth under this Version 2.0 specification in order to earn the ENERGY STAR.

- 6) Future Specification Revisions: EPA reserves the right to revise the specification should technological and/or market changes affect its usefulness to consumers or industry or its impact on the environment. In keeping with current policy, revisions to the specification will be discussed with stakeholders.