



ENERGY STAR[®] Program Requirements for Commercial and Industrial Transformers

Partner Commitments

Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing of ENERGY STAR qualified commercial and industrial (C&I) transformers. 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 C&I transformers and specifying the testing criteria for C&I transformers. 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 Logo Use Guidelines, describing how the ENERGY STAR labels 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 labeled C&I transformer model within one year of activating the C&I transformers 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 C&I transformers. The ENERGY STAR label must be clearly displayed 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;
- provide to EPA, on an annual basis, an updated list of ENERGY STAR qualifying C&I transformer models. Once the Partner submits its first list of ENERGY STAR labeled C&I transformer 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 EPA a list of the kVA classes for which Partner produces ENERGY STAR qualifying C&I transformers. A sample reporting form that indicates the equipment classes for which the Partner produces ENERGY STAR qualified equipment is attached to this agreement. Partner is required to complete this form when submitting the signed agreement. Partner may offer ENERGY STAR labeled C&I transformers to any C&I transformer purchaser (including vendors and contractors). In addition, Partner agrees to identify ENERGY STAR labeled C&I transformers to C&I transformer purchaser
- 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 C&I transformers 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. 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;

- notify EPA of a change in the designated responsible party or contacts for C&I transformers 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 label for buildings;
- purchase ENERGY STAR labeled 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 labeled 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 labeled product models;
- feature the ENERGY STAR label(s) on Partner Web site and in other promotional materials. If information concerning ENERGY STAR is provided on the Partner Web site, 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 labeled 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.



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Eligibility Criteria

Below is the product specification for ENERGY STAR qualified C&I transformers. A product must meet all of the identified criteria if it is to be labeled as ENERGY STAR by its manufacturer.

- 1) Definitions: Below is a brief description of a transformer and common energy consumption characteristics relevant to ENERGY STAR.
 - A. Transformer: A transformer converts electricity from one voltage to another according to the requirements of the end-user(s). Electricity is converted by passing a current from one set of electric windings to another by means of a magnetized core. The conversion levels are dictated by the ratios of the turns of the windings in the transformer.
 - B. Commercial and Industrial (C&I) Low Voltage Transformer: For the purposes of this agreement, a low-voltage transformer is a distribution transformer with both the primary and secondary windings designed to operate at system voltages in the low-voltage classes (i.e., less than 1000V).¹
 - C. ENERGY STAR Efficiency Guideline: The efficiency levels at which C&I transformers can qualify for the ENERGY STAR designation are found below in Section 3.
- 2) Qualifying Products: For the purposes of ENERGY STAR, C&I transformers shall include both single-phase and three-phase distribution transformers and include the transformer rating categories listed in Table 1 below.
- 3) Energy-Efficiency Specifications for Qualifying Products: C&I transformers qualifying for the ENERGY STAR program must meet the specifications outlined in the Table 1 below.

Table 1: C&I Distribution Transformers	
(Temperature: 75° C and % of Nameplate Load: 35%)	
Single Phase kVA	Low Voltage
15	97.7
25	98
37.5	98.2
50	98.3
75	98.5
100	98.6
167	98.7
250	98.8
333	98.9
Three Phase kVA	Low Voltage
15	97
30	97.5
45	97.7
75	98

¹ Institute of Electrical and Electronic Engineers (IEEE) 1986, An American National Standard: IEEE Recommended Practice for Electric Power Distribution for Industrial Plants, ANSI/IEEE, Std 141-1986 (revision of Std 141-1976).

112.5	98.2
150	98.3
225	98.5
300	98.6
500	98.7
750	98.8
1000	98.9

- 4) Test Criteria: Manufacturers are required to perform tests and self-certify those product models that meet the ENERGY STAR criteria above. Partner shall use applicable testing standards outlined in ANSI/IEEE Standard C57.12.91 and use an industry acceptable sampling methodology.

- 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 ENERGY STAR C&I transformer specification for manufacturers is effective immediately.

- 6) Future Specification Revisions: ENERGY STAR reserves the right to revise the specification should technological and/or market changes affect its usefulness to consumers, industry, or the environment. Revisions to the specification are generally made following discussions with industry.