



ENERGY STAR® Program Requirements for Traffic Signals

Partner Commitments

Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing of ENERGY STAR qualified traffic signals. 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 traffic signals and specifying the testing criteria for traffic signals. 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 traffic signal model within one year of activating the traffic signals 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 traffic signals. The ENERGY STAR label must be clearly displayed on the 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;
- provide to EPA, on an annual basis, an updated list of ENERGY STAR qualifying traffic signal models. Once the Partner submits its first list of ENERGY STAR labeled traffic signal 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 traffic signals 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 traffic signals 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 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 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 (Version 1.1) for ENERGY STAR qualified traffic signals. A product must meet all of the identified criteria if it is to be qualified as ENERGY STAR by its manufacturer.

This traffic signal specification is based on a low energy requirement and conformance to the Institute for Transportation Engineers (ITE) "Interim LED Purchase Specification, Vehicle Traffic Control Signal Heads, Part 2: Light Emitting Diode (LED) Vehicle Traffic Signal Modules" (VTCSH Part 2). At this time, only the LED technology meets such requirements and therefore the specification includes terms specific to LED traffic signals. However, EPA is open to any other (non-LED) technology that meets both the EPA specification and ITE's VTCSH Part 1 or Part 2 requirements, or a future relevant ITE specification. Manufacturers are encouraged to contact EPA with such technology only if they are able to meet such requirements.

- 1) **Definitions:** Below is a brief description of an LED traffic signal and related terms as relevant to ENERGY STAR.
 - A. **Vehicular Traffic Signal:** A power-operated illuminated traffic control device, other than a barricade warning light or a steady illuminated lamp, by which traffic is warned or directed to take some specific action.
 - B. **Modules:** Standard 8-inch (200 mm) or 12-inch (300 mm) round traffic signal indications (balls). They consist of the light source and the lens (usually a sealed unit) that communicate movement messages (stop, caution or prepare to stop, and go) to drivers through red, yellow, and green colors. Arrow modules in the same colors are used to indicate turning movements. Pedestrian modules are used to convey movement information to pedestrians.
 - C. **Traffic Signal Head:** The combination of the traffic signal housing, with the modules (red, yellow, and green) installed in it. The head typically contains three modules and the necessary wiring, although it may also include arrow modules.
 - D. **LED Lamps or LEDs:** The individual light-emitting diodes (LEDs), which can be set on a circuit board in any arrangement.
 - E. **LED Traffic Signal:** The generic term used to describe the combination of signal heads or modules that use LEDs as the source of light. The combination also incorporates the housing unit at an intersection along with any internal components and support structures.

- 2) **Qualifying Products:** For the purposes of ENERGY STAR, LED traffic signal modules include the following:
 - A. LED Vehicular Traffic Signal Modules, including Arrow Modules
 - B. LED Pedestrian Signal Modules

Other (non-LED) technology products may be considered if they meet ITE's VTCSH Part 1 or 2 (or other relevant future ITE specification), as well as the requirements of this specification.

- 3) **Energy-Efficiency Specifications for Qualifying Products:** Products listed in Section 2 that meet the criteria outlined in Table 1 below and that meet the minimum performance requirements of the

appropriate ITE specification (either current or future) may qualify as ENERGY STAR. The wattage requirements in the table below are to be met by the individual module, not the traffic signal heads as defined in Section 1(C). These levels include power demand from the LED power circuit.

Table 1: Energy-Efficiency Criteria for ENERGY STAR Qualified Traffic Signal Modules

Module Type	Maximum Wattage (at 74°C)	Nominal Wattage (at 25°C)
12" Red Ball	17	11
8" Red Ball	13	8
12" Red Arrow	12	9
12" Green Ball	15	15
8" Green Ball	12	12
12" Green Arrow	11	11
Combination Walking Man/Hand	16	13
Walking Man	12	9
Orange Hand	16	13

- 4) Test Criteria: The products must meet the minimum performance requirements of the relevant ITE specification, and be tested under the conditions presented in Section 6.4.2 of the VTCSH Part 2.
- 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 Traffic Signal specification is effective immediately.
- 6) Future Specification Revisions: ENERGY STAR 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 will be arrived at through industry discussions. Specifically with regard to traffic signals, EPA expects that revisions to this specification will be discussed once the ITE specification is final for arrows and pedestrian heads. In addition, discussion will be necessary once ITE compliant amber balls and arrows are developed and marketed by manufacturers.