

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF AIR
AND RADIATION

November 18, 2014

Dear ENERGY STAR® Displays Partner or Other Interested Stakeholder:

The U.S. Environmental Protection Agency (EPA) welcomes your input on the following Draft 1 Version 7.0 ENERGY STAR Displays specification. This letter outlines the rationale for revising the specification and summarizes the proposed changes. EPA expects Version 7.0 will take effect in early 2016. The Department of Energy (DOE) also welcomes your input on the Draft 2 Test Method.

In recent years, the energy consumption of displays has decreased significantly. Currently, the average power consumption of ENERGY STAR certified monitors is 46 percent less than the energy use of conventional models. Since Version 6.0 was finalized in 2012, the number of ENERGY STAR certified models has grown to represent the majority of the total available models on the market. Therefore, the ENERGY STAR program has the opportunity to further differentiate among today's efficient models to ensure that the ENERGY STAR label remains an effective tool for consumers. EPA also believes that for the type of signage display eligible within the scope of this specification, the ENERGY STAR models represent a large portion of the total market. Further, EPA recognizes that the market for signage displays has evolved since the development of Version 6.0. With this revision, EPA will examine the scope for signage displays with the intention of broadening coverage.

In establishing the proposed new performance levels, EPA analyzed data associated with over 1100 ENERGY STAR display models—over 900 of which are computer monitors. A masked version of the dataset is attached to this distribution.

The Draft 1 Version 7.0 specification includes the following key elements:

- **On Mode Requirements:** The proposed requirements reflect the performance of the top 20 percent of monitors and top quartile of signage displays currently in the EPA dataset. EPA believes the dataset includes most computer monitor models and non-TV signage models under 60 inches on the market today. The proposed levels capture a variety of sizes and models from a variety of manufacturers for both computer monitors and signage displays. In addition, EPA proposes a revised allowance for enhanced performance displays (EPDs) that reflects the performance of 14 of the 38 currently qualified EPDs and also proposes an allowance for signage displays based on luminance. EPA seeks more data for signage displays with very high default as-shipped luminances.
- **Resolution:** ENERGY STAR-certified monitor data shows that today's monitors can deliver higher resolution with a lower power budget than they previously required. Based on an analysis of resolution and power consumption within the dataset, EPA proposes

providing a 2.0 watts per megapixel allowance instead of the current allowance of 6.0 watts per megapixel.

- **Automatic Brightness Control (ABC):** To determine if ABC is enabled by default and can therefore qualify for an allowance, EPA proposes calculating power consumption at 12 lux in lieu of the current 10 lux. This is a minor change that would harmonize with one of the lux values required for testing TVs with ABC enabled by default in the ENERGY STAR Televisions Specification. EPA also proposes reducing the ABC allowance from 10 percent to 5 percent; 40 percent of the small subset of products that qualify using ABC would continue to qualify with this reduced allowance. For signage displays, EPA seeks feedback on which lux levels accurately represent the lighting conditions where signage displays are typically used, in both indoor and outdoor commercial environments.
- **Additional allowances:** EPA proposes revising certain sleep mode allowances, including an allowance for occupancy sensors, and proposes adding an allowance for touch capability.
- **Scope:** EPA proposes removing the exclusion for products with a viewable diagonal screen size greater than 61 inches, since many signage displays sold today are larger than 61 inches, and proposes including displays with internal processors, since certain signage displays today include them but do not otherwise meet the definition of a computer for ENERGY STAR purposes.
- **Definitions:** EPA is introducing new definitions for Full Network Connectivity (to harmonize with the definition in the televisions specification), Standard dc Power, and Internal Processors.
- **Test Procedure:** With this draft, the Department of Energy (DOE) is releasing Draft 2 of the Test Method, which includes a test procedure for products powered by Standard dc, and introduces testing products with full network connectivity.
- **Supplemental TEC Proposal:** Traditionally, EPA has applied a modal approach for evaluating display efficiency. In some electronics categories, EPA has migrated to a Typical Electricity Consumption (TEC) approach in the ENERGY STAR Computers, Imaging, and Set-top Box Specifications. As new features and functionality, such as touch functionality, occupancy sensing, and network connectivity, come into the display market and are enabled during sleep mode, the energy allowance to qualify for ENERGY STAR needs to balance flexibility while still continuing to drive efficiency. In the interest of providing this flexibility, EPA has outlined a TEC framework for consideration by stakeholders for monitors only, building off already established duty cycles associated with computers. Should EPA move to a TEC approach, the additional power needed for functionality within sleep modes would be factored into the TEC limits for monitors. EPA is sharing with stakeholders this supplemental TEC proposal to demonstrate how applying a TEC approach based on the modal limits proposed in Draft 1 would appear in the specification. Should support exist for a TEC approach, EPA will factor the changes into a Draft 2.

Stakeholders are requested to provide comments on the Draft 1 specification, the TEC framework and the Draft 2 Test Procedure, as well as data specific to Signage Displays, no later than Friday, January 16, 2015. Please send comments via displays@energystar.gov. All comments received will be posted to the ENERGY STAR Product Development website, unless the submitter specifically requests that his or her comments remain confidential.

On December 11, 2014 from 12:00 Noon–3:00 PM, Eastern Time, EPA will host a stakeholder webinar to present details on Draft 1 Version 7.0 ENERGY STAR Displays

specification and the data analysis performed to date, as well as address stakeholder questions and concerns regarding the Draft 1. If you wish to attend this meeting, please [register prior to the meeting](#).

The exchange of ideas and information between EPA, industry, and other interested parties is critical to the success of ENERGY STAR. To track EPA's progress in revising the ENERGY STAR TV products specification and to review comments, please visit the Product Development Web site at www.energystar.gov/RevisedSpecs and click on "Version 7.0 is in development" under "Displays."

Thank you for taking the time to review these materials. Please contact me at Radulovic.Verena@epa.gov or (202) 343-9845 with any questions or concerns. For any questions related to the test method for ENERGY STAR products, please contact Jeremy Dommu at Jeremy.Dommu@ee.doe.gov or (202) 586-970.

Best Regards,



Verena Radulovic, Product Manager
ENERGY STAR for Consumer Electronics

Enclosures:

Draft 1 Version 7.0 ENERGY STAR Displays Products Specification
Proposed Total Energy Consumption (TEC) Approach for ENERGY STAR Version 7.0 Monitors
Draft 2 Version 7.0 ENERGY STAR Displays Test Method
Masked Dataset Used to Determine Proposed Draft 1 Energy Efficiency Requirements and
Chart Showing Proposed Draft 1 Energy Efficiency Requirements
EPA Data Assembly Form