



May 3, 2019

Mr. Ryan Fogle  
United States Environmental Protection Agency  
ENERGY STAR Program  
1200 Pennsylvania Ave NW  
Washington, DC 20460

**Subject: NRDC Comments on ENERGY STAR Computers Version 8.0 Draft 1**

Dear Mr. Fogle,

On behalf of the Natural Resources Defense Council (NRDC) and our more than 1.3 million members and online activists, we respectfully submit the following comments in regard to the ENERGY STAR Computer Discussion Guide Version 8.0.

NRDC has been an active participant in the development of ENERGY STAR specifications for computers for over a decade. Computers are the second largest electricity end-use among electronic devices after televisions, roughly on par with all data centers in the United States. Large and cost-effective energy saving opportunities remain for computers, as demonstrated in NRDC's 2016 study "[Slashing Energy Use in Computers and Monitors While Protecting Our Wallets, Health, and Planet](https://www.nrdc.org/resources/slashing-energy-use-computers-and-monitors-while-protecting-our-wallets-health-and-planet)".<sup>1</sup> As such, improving computer energy efficiency is an important measure to save American consumers and businesses money on their utility bills, supporting America's economic competitiveness, and supporting job growth, all while reducing greenhouse gas emissions.

NRDC strongly supports EPA's efforts to update the computer specification to version 8. We generally support Version 8.0 draft 1, with the following improvement recommendations.

**1. Internal power supply efficiency at low load: a 10-percent load efficiency requirement would guarantee better low-load performance and not create any additional testing burden.**

NRDC appreciates EPA's compromise proposal to require 80Plus Gold for all internal power supplies, and we agree that current Gold-rated units exhibit better low-load performance than lower-rated units.

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<sup>1</sup> Delforge P., July 2016, <https://www.nrdc.org/resources/slashing-energy-use-computers-and-monitors-while-protecting-our-wallets-health-and-planet>

However, a Gold rating does not automatically guarantee good performance at low load, and without a clear requirement at low load points, power supply designers could be tempted to cut corners to reduce manufacturing costs, even if this increases the lifecycle cost of the product and lets the customer bear the burden of increased electricity bills.

The best way to avoid this situation is to set a clear requirement that power supply manufacturers can design and test to. One way to do this while avoiding any added testing burden would be to leverage the existing 80Plus test point at 10-percent load. This is not as ideal as NRDC's original proposal of a 5-percent requirement but would strengthen EPA's proposal of a Gold rating requirement.

**Energy Efficient Ethernet (EEE)** – NRDC supports EPA's proposal to require Ethernet ports to be shipped enabled in products with a throughput higher than 1 Gb/s. Per EPA's data, it appears that the market has widely adopted this practice, it is time to make this a requirement for products seeking ENERGY STAR recognition.

**Mode Weightings for Desktops and Integrated Desktops** – NRDC is skeptical that the time spent in sleep mode has increased as much as indicated by EPA's data. A study by the California Plug Load Research Center (CalPlug) for the California Energy Commission, called Power Management User Interface, whose results were presented at the CalPlug 4/29/2019 workshop, and which should be published shortly, shows different numbers and highlights that the time computers typically spend in sleep mode is lower than expected based on sleep settings because of "sleep blockers", which are drivers and other processes that prevent computers from going to sleep despite settings to do so. It would be helpful to have access to the design parameters of the study EPA uses and its findings in order to review the sampling strategy and whether issues like sleep blockers were factored in.

In any case, NRDC supports EPA's proposal to eliminate separate mode weightings for Full Network Connectivity as those are no longer needed.

**Allowances and Functional Adders** – NRDC generally supports Draft 1 proposal with the following improvement recommendations:

1. **EPA should target pass rates of 15 to 20-percent.** Draft 1 estimated pass rates vary between 25 and 31 percent except for category 0 at 55% due to a small number of products. Our understanding is that these pass rates are based on a historical dataset representing ENERGY STAR qualifying products over the past few years. By the time the specification goes into effect in July 2020, it is likely that pass rates will be significantly higher than Draft 1 estimates. ENERGY STAR's own guidelines states that specifications should target pass rates of 25 percent at effective date. This means that allowances and adders should be set lower than 25 percent, especially in Draft 1, in order to achieve this 25 percent pass rate at effective date. There are precedents for this approach, e.g. with TVs.
2. **Align discrete graphics adders to California Tier 2 computer standards** – As a voluntary program designed to recognize and encourage energy efficiency leadership, EPA should set requirements that are more stringent than mandatory standards already in effect.

Instead of aligning Version 8 with California Tier 1 adders for discrete graphics, which is in effect in California today, EPA should adopt the Tier 2 adder. California Tier 2 standards will go into effect in July 2021, only 1 year after Version 8's effective date. Using Tier 1 adders would make ENERGY STAR lag the CEC mandatory standards.

3. **Make the memory adder at least as stringent as the CEC standards** – For memory greater than about 11 GB, the EPA's proposed memory adder is less stringent than the CEC memory adder. We recommend EPA adopt a memory adder that is 20% more stringent than the CEC adder above 5 GB and keep its current proposal up to 5GB.
4. **Adjust overall adders to appropriate levels for new mode weightings** – The new mode weightings decrease the amount of time systems are assumed to spend in short and long idle. ENERGY STAR adders from previous versions of the specification or the CEC standards should reflect this change and be reduced accordingly.

Thank you for the opportunity to participate in this specification development process and for your consideration of our comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Delforge'.

Pierre Delforge  
Senior Scientist  
Natural Resources Defense Council