

ENERGY STAR Update

U.S. Environmental Protection Agency
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Data Center Storage Products Earn ENERGY STAR Certification

The U.S. Environmental Protection Agency (EPA) has finalized its first ENERGY STAR specification for data center storage products. Expanding into this new product category is part of the ENERGY STAR program's overall commitment to help prevent climate change by encouraging superior energy efficiency.

The storage products covered by this new specification are most commonly found in data centers. They are responsible for storing and retrieving data for email systems, image hosting, online gaming, financial transactions, medical records, and much more. They are composed of large arrays of hard disks or solid state drives managed by specialized controller hardware, with capacities typically ranging from a few terabytes to multiple petabytes of data. According to IDC, a market research firm, annual sales of storage capacity will increase by more than 30 percent every year through 2017, a slower pace than the historical trend that is primarily attributed to growing concerns with cost and energy efficiency.

COOL FACT: Information on the energy use of data center storage products, made available through this new ENERGY STAR specification, can help purchasers identify the system that best meets their needs.

Online storage systems are designed to be on all the time and use approximately 80% of their peak energy capacity while simply idling their spinning drives. Additionally, most storage products exhibit a characteristic power/performance curve with increasing efficiency up to some size, then a drop off after passing their optimal peak. The ENERGY STAR specification recognizes products that perform well around this peak point, so labeled products perform near their optimal peak. The specification also requires the use of energy efficient power supplies and power consumption reporting. It promotes the use of capacity optimization methods and adaptive active cooling where appropriate for end users.

The data made available through this ENERGY STAR specification and the Storage Networking Industry Association (SNIA) Emerald™ test specification will provide invaluable insight into the energy performance of storage systems. This information focuses on energy performance across a range of product sizes and workloads and will assist users in understanding how a system will perform for their particular needs. All ENERGY STAR certified storage products will also save energy directly by using high efficiency power supplies, and will be capable of reporting their power consumption levels to further assist operators.

To earn the ENERGY STAR label, products must be certified by an EPA-recognized third party, based on testing in an EPA-recognized laboratory.

Products, homes and buildings that earn the ENERGY STAR label prevent greenhouse gas emissions by meeting strict energy efficiency requirements set by the U.S. EPA. In 2012 alone, Americans, with the help of ENERGY STAR, saved \$24 billion on their utility bills and prevented greenhouse gas emissions equal to those of 41 million vehicles. From the first ENERGY STAR qualified computer in 1992, the ENERGY STAR label can now be found on products in more than 65 different categories, with more than 4.5 billion sold over the past 20 years. Over 1.4 million new homes and 20,000 office buildings, schools and hospitals have earned the ENERGY STAR label.

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