

ENERGY STAR Program

Overview

ENERGY STAR® is an internationally recognized voluntary labeling program for energy-efficient products, homes, buildings, and manufacturing plants that is managed jointly by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). The intended purposes of the program are to reduce energy consumption, realize cost savings for consumers on their utility bills, and reduce emissions of pollutants—including greenhouse gases (GHGs)—from electric power production, thereby limiting associated health and environmental impacts through nonregulatory means. According to EPA, in 2020 the program conserved 520 billion kilowatt-hours of electricity, saved consumers \$42 billion on annual utility bills, and avoided 400 million metric tons of GHGs. Congressional interest in ENERGY STAR may include program funding, the consideration or revision of ENERGY STAR specifications for selected product or building categories, use of the ENERGY STAR label in federal procurement preferences, and whether to continue, cancel, or amend incentives for selected products or buildings with the ENERGY STAR label.

History and Development

EPA established ENERGY STAR in 1992 under the authority of the Clean Air Act, Section 103(g). In 1996, DOE's role with ENERGY STAR was established through a memorandum of cooperation (MOC) with EPA. Congress codified the program and this relationship in the Energy Policy Act of 2005 (P.L. 109-58, §131). The most recent memorandum of understanding (MOU) between EPA and DOE identifies EPA as the lead agency for ENERGY STAR, and DOE as the lead agency for the National Building Rating program. Generally, EPA sets performance levels for ENERGY STAR products and buildings, and DOE provides technical support, including the development of testing procedures and metrics for performance and program monitoring.

The ENERGY STAR program portfolio has expanded over time. EPA introduced the ENERGY STAR label for computers and monitors in 1992. Since that time, EPA has expanded the number of product categories to more than 70. In 1995, EPA expanded ENERGY STAR to include labeling for buildings and new homes. The program added manufacturing facilities in 2006 and manufactured homes in 2007. In 2020, ENERGY STAR launched Tenant Space to recognize energy efficiency in leased office spaces. Due to historical efficiency gains for lighting, EPA has sunset specifications for lamps and luminaires (with exceptions for recessed downlights) effective December 31, 2024.

Certain actions of note in ENERGY STAR history are highlighted in **Table 1**.

Table 1. Chronology of Selected Actions Related to the ENERGY STAR Program

Timeline	Action
1992	EPA establishes ENERGY STAR under the authority of the Clean Air Act, Section 103(g) (P.L. 101-549)
1995	United States and Japan establish first international agreement for ENERGY STAR regarding qualified office products (e.g., computers and monitors)
1996	EPA and DOE issue MOC on Energy Efficient, Environmentally Beneficial Buildings
2001	United States and Canada agree to partner on ENERGY STAR
2001	United States and European Union (EU) agree to partner on ENERGY STAR
2005	Energy Policy Act, Section 131 (P.L. 109-58), formally codifies the ENERGY STAR program within EPA and DOE
2006	United States and EU enter into agreement on the Coordination of Energy-Efficient Labelling Programs for Office Equipment
2009	EPA and DOE issue MOU on Improving the Energy Efficiency of Products and Buildings
2010	GAO-10-470, <i>Energy Star Program: Covert Testing Shows the Energy Star Program Certification Process Is Vulnerable to Fraud and Abuse</i>
2011	GAO-11-888, <i>Energy Star: Providing Opportunities for Additional Review of EPA's Decisions Could Strengthen the Program</i>
2013	Update of U.S.-EU ENERGY STAR agreement
2015	Energy Efficiency Improvement Act of 2015, Section 104 (P.L. 114-11), directs EPA and DOE to establish a program to promote energy efficiency in spaces leased by tenants
2018	U.S.-EU ENERGY STAR agreement expires on February 20, 2018
2020	EPA launches ENERGY STAR Tenant Space
2023	EPA launches ENERGY STAR NextGen Certified Homes and Apartments certification
2024	EPA sunsets the ENERGY STAR specifications for lamps and luminaires

Source: P.L. 101-549; P.L. 109-58; P.L. 114-11; EPA 2012, *ENERGY STAR: Celebrating 20 Years*; GAO-10-470; GAO-11-888; MOU (2009); MOC (1996); Agreements between United States and EU.

Notes: MOC = memorandum of cooperation; MOU = memorandum of understanding.

Program Design

ENERGY STAR supports voluntary partnerships with manufacturers, retailers, and organizations committed to improving energy efficiency. Partners are provided with access to seminars and networking events, recognition for achievement, and marketing materials.

ENERGY STAR establishes voluntary certification requirements for products, buildings, and industrial facilities. Specifications are based upon energy efficiency, energy savings, product features, and performance as demanded by consumers. If the cost is more than conventional products, purchasers of certified products are expected to recoup their investment within a reasonable period of time. Product energy consumption must also be measurable and verifiable with testing. For many product categories, once the market share of ENERGY STAR products reaches 50% or greater, the product specifications are typically reviewed by EPA. For longer-lived products, the MOU states that specifications may be reviewed every three years or once the market share reaches about 35%.

The ENERGY STAR label (**Figure 1**) is affixed to products, commercial buildings, industrial plants, and new homes that use less energy but perform at least as well as standard models. Through labeling, ENERGY STAR helps consumers quickly identify which product options are energy efficient.

Figure 1. ENERGY STAR Promotional Mark



Source: EPA, ENERGY STAR program.

Third-Party Certification

In 2010, GAO identified vulnerabilities within the self-certification requirements of ENERGY STAR. In response to these findings, since 2011, ENERGY STAR has required products to be third-party-certified and qualification-tested in an EPA-recognized laboratory. The certified laboratories are required to conduct annual verification testing. A percentage of certified models in a product category are tested. At least half of the models that undergo testing are to be randomly selected. The remainder may be selected according to other factors, including prior testing failures; high sales volumes; referrals from EPA or other parties, such as consumer groups; or requests to verify the performance of a competitor's product. The verification testing program is manufacturer-funded.

DOE implements a complementary testing program that does not test randomly. Instead, DOE targets products for testing, for example, if they have a history of failing to meet ENERGY STAR program requirements, if they use new technologies, or if they belong to a category with known performance issues. DOE's verification testing is agency-funded.

International Partnerships

ENERGY STAR is recognized as an international standard for energy-efficient products. EPA has entered into agreements with foreign governments to promote specific ENERGY STAR product categories in their markets. Canada, Japan, and Switzerland currently administer the ENERGY STAR program for selected categories. These agreements are intended to unify voluntary energy-efficient labeling programs and facilitate partner participation through a single set of energy-efficiency qualifications. International programs coordinate with ENERGY STAR on the labeling of office equipment and the creation of consistent targets for manufacturers. In the case of Canada, Natural Resources Canada administers the ENERGY STAR program directly through an agreement with EPA and DOE. Previously, EPA has had other international agreements, including with the European Union, the European Free Trade Association, Taiwan, New Zealand, and Australia. Countries without current agreements may not use the ENERGY STAR mark on products, packaging, or websites unless it is for the purpose of promoting an ENERGY STAR-certified model for the U.S. or Canadian market.

Federal Appropriations

Between FY2007 and FY2011, combined appropriations for ENERGY STAR averaged \$58 million annually in nominal dollars, with EPA receiving approximately 87% of total appropriations. More recently, ENERGY STAR funding has decreased in both inflation-adjusted and nominal dollars (**Table 2**). The FY2025 Full-Year Continuing Appropriations and Extensions Act (P.L. 119-4) provided appropriations at FY2024 funding levels for most EPA and DOE accounts without further policy direction.

Table 2. ENERGY STAR Program Funding

Fiscal years 2015 through 2024 in millions of nominal dollars

Fiscal Year	EPA Funding	DOE Funding
2015	\$44.2	\$4.3
2016	\$43.2	\$2.9
2017	\$42.1	\$1.4
2018	\$42.1	\$3.0
2019	\$38.4	\$2.1
2020	\$36.7	\$1.4
2021	\$34.8	\$0.9
2022	\$33.9	\$2.2
2023	\$33.0	\$2.2
2024	\$32.1	\$3.6

Sources: EPA communication to CRS; DOE communication to CRS.

Notes: Values are rounded to the nearest tenth. The annual funding levels for the ENERGY STAR program presented here reflect EPA and DOE annual appropriations. Thus, they do not reflect supplemental appropriations, if any, for the program.

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