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ENERGY STAR

Providing Opportunities for Additional Review of EPA's Decisions Could Strengthen the Program

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Why GAO Did This Study

American consumers, businesses, utilities, and federal and state agencies rely on the Energy Star product labeling program to identify more efficient products that lower their energy costs. Even with the program's successes, several reports by GAO and others have identified weaknesses in the Energy Star program. The program, which began in 1992 and was reauthorized in 2005, has been jointly administered by the Environmental Protection Agency (EPA) and the Department of Energy (DOE). In 2009, the agencies signed a memorandum of understanding (MOU) that outlined changes to address these weaknesses. The changes included identifying EPA as the lead agency, clarifying the roles and responsibilities of each agency, as well as instituting third-party testing of products.

GAO was asked to examine (1) the status of EPA's and DOE's implementation of changes to the Energy Star program under the MOU and (2) program partners' views of the Energy Star program and changes that are under way. To examine the status of the changes, GAO reviewed guidance and eligibility criteria and interviewed various program partners to gather their views. The results of these interviews are not generalizable, but provided insights on changes to the Energy Star program.

What GAO Recommends

GAO recommends the Administrator of EPA assess the need to develop a process for independent review of adverse decisions related to setting specifications and disqualifications. EPA neither agreed nor disagreed with this recommendation.

View [GAO-11-888](#) or key components. For more information, contact Franklin W. Rusco at (202) 512-3841 or ruscof@gao.gov.

ENERGY STAR

Providing Opportunities for Additional Review of EPA's Decisions Could Strengthen the Program

What GAO Found

EPA and DOE have made considerable progress in their ongoing efforts to implement significant changes to the Energy Star program agreed to in the 2009 MOU. These changes include expanding product qualification and verification testing, updating program requirements, and piloting a program to promote the most efficient Energy Star products. In 2010, EPA developed and instituted new third-party certification procedures to qualify products for the Energy Star label. The new procedures took effect on January 1, 2011. As of May 2011, EPA had received about 10,000 new product submissions. In addition, EPA and DOE expanded their testing programs to verify that labeled products continue to meet program requirements. As part of these efforts, EPA is finalizing standard procedures for disqualifying products that fail the verification testing. EPA has also taken steps to update program requirements by broadening the number of product categories covered by the program and updating performance specifications for products that are already part of the program. Since 2009, EPA and DOE have finalized specifications for two new residential product categories and EPA is working on five additional product categories. EPA has a schedule to review and update the specifications for all existing product categories by 2013. In May 2011, EPA established a pilot program to recognize the most efficient products among those that qualify for the Energy Star label in seven product categories. As of August 2011, 78 models in five categories had received recognition as the most efficient products. The pilot program will run into 2012, when EPA will evaluate whether it should continue beyond 2012.

Program partners we interviewed—including manufacturers, retailers, and utilities—generally had positive views of the Energy Star program but raised key concerns about the program's ongoing changes. Program partners cited the overall strength of the Energy Star brand itself and its wide recognition by American consumers and said that the loss of the program would be detrimental to their business. Further, these program partners told us they generally supported MOU steps taken to clarify agencies' roles and establish a single agency as the brand manager. However, program partners also raised three key concerns. First, program partners expressed concern that the ongoing changes are shifting the voluntary nature of the program to include elements of a more traditional regulatory program, but without the procedural safeguards of such programs. Specifically, many program partners told us that the Energy Star label is necessary to sell in many markets. Unlike traditional regulatory programs, however, Energy Star does not have an independent administrative review process where adverse agency decisions related to setting specifications and disqualifications can be reviewed prior to seeking judicial review. Program partners also identified a lack of transparency in EPA's key decisions, including how it sets performance specification levels. Second, many program partners told us the pilot program to identify the most efficient products may undermine the value of the Energy Star label and the program as a whole by creating two classes of Energy Star products. Third, some program partners raised concerns about the rising cost of participating in the program because of third-party certification testing, and some manufacturing partners said they are considering decreasing their participation because of the cost.

Contents

Letter		1
	Background	3
	EPA and DOE Have Made Progress in Their Ongoing Efforts to Implement Significant Changes to the Energy Star Program	10
	Program Partners Generally Had Favorable Views of the Energy Star Program but Identified Several Areas of Concern	21
	Conclusions	26
	Recommendation for Executive Action	27
	Agency Comments and Our Evaluation	28
Appendix I	Scope and Methodology	30
Appendix II	Program Partners' Interview Responses	32
Appendix III	Comments from the Environmental Protection Agency	41
Appendix IV	GAO Contact and Staff Acknowledgments	43
Table		
	Table 1: Energy Star Program Budgets, Fiscal Years 2007 to 2011	9
Figures		
	Figure 1: Energy Star Label	5
	Figure 2: EPA's Energy Star Most Efficient Marketing Template	20

Abbreviations

Btu	British thermal unit
DOE	Department of Energy
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act
FTC	Federal Trade Commission
LED	light-emitting diode
MOU	memorandum of understanding
OIG	office of inspector general

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G A O

Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

September 30, 2011

Congressional Requesters

American consumers, businesses, states, and federal agencies have come to rely on the Energy Star program to identify more energy-efficient products that lower their energy costs. Energy Star is a voluntary program that the Environmental Protection Agency (EPA) began in 1992 to encourage the purchase of energy-efficient computers and monitors as part of the agency's broader efforts to reduce greenhouse gas emissions. Since 1996, EPA has shared management responsibilities for the Energy Star program with the Department of Energy (DOE). According to EPA documents, the Energy Star program is designed to identify, through the use of the distinctive blue Energy Star label, appliances and other products that deliver the same or better performance as comparable models while using less energy. The Energy Star program partners with manufacturers, retailers, states, utilities, regional energy efficiency groups, home builders, and others who help promote the program and receive, among other benefits, use of the widely recognized Energy Star label on qualified products and other marketing materials. The Energy Star program now covers over 60 product categories, and its label appears on thousands of major appliances, office equipment, lighting, home electronics, new homes, and commercial and industrial buildings. EPA reported that for 2010, the Energy Star program saved consumers about \$18 billion in energy costs and prevented 170 million metric tons of greenhouse gas emissions.

Despite its successes, numerous recent investigations and reports—including reports by us, EPA's Office of Inspector General (OIG), and DOE's Office of Inspector General—have identified weaknesses in the Energy Star program. For example, in 2007, we reported that EPA and DOE qualified household products based on factors other than the estimated total energy consumption.¹ Similarly, reports by EPA's Office of Inspector General in 2007 and 2008 identified weaknesses in the program, including a lack of management controls to ensure that products met qualification criteria, uncertainty regarding the criteria used to

¹GAO, *Opportunities Exist for Federal Agencies to Better Inform Household Consumers*, [GAO-07-1162](#) (Washington, D.C.: Sept. 26, 2007).

determine when product specifications needed to be updated, and allegations that the program's reported savings claims were inaccurate and unreliable.²

In September 2009, DOE and EPA signed a memorandum of understanding (MOU) agreeing, among other things, to coordinate efforts to expand and enhance the Energy Star program in an effort to address many of the weaknesses previously identified.³ The MOU clarified the roles and responsibilities for each agency, establishing EPA as the primary agency for the Energy Star brand and DOE as the lead on test procedure development and evaluation. The MOU outlined a number of other changes to the program, including steps to ensure that Energy Star performance criteria consistently recognized top-performing products and required products to be tested by an accredited laboratory. EPA and DOE were finalizing plans to implement the program changes outlined in the MOU when in March 2010 we released a widely publicized report that identified serious vulnerabilities in Energy Star's process for self-certifying products qualified to carry the Energy Star label.⁴ In addition, in October 2010, EPA's Office of Inspector General issued a summary report that concluded EPA's implementation of the Energy Star program had become inconsistent with the program's authorized purpose because of previously identified weaknesses.⁵

Given the recent controversies surrounding the Energy Star program, you asked us to examine changes to the program that are currently under way as a result of the MOU between EPA and DOE. Specifically, we examined (1) the status of EPA's and DOE's implementation of changes to the Energy Star program under the MOU and (2) Energy Star program partners' views of the program and recently implemented changes.

To examine the status of EPA's and DOE's implementation of changes to the Energy Star program, we reviewed relevant legislation, agency

²EPA OIG Report No. 2007-P-00028 (Aug. 1, 2007) and 09-P-0061 (Dec. 17, 2008).

³See *Memorandum of Understanding on Improving the Energy Efficiency of Products and Buildings between the U.S. Environmental Protection Agency and the Department of Energy* (Sept. 30, 2009).

⁴GAO, *Covert Testing Shows the Energy Star Program Certification Process Is Vulnerable to Fraud and Abuse*, [GAO-10-470](#) (Washington, D.C.: Mar. 5, 2010).

⁵EPA OIG Report No. 11-P-0010 (Oct. 28, 2010).

guidance, eligibility criteria, and other program documentation and interviewed agency officials. To gather program partners' views about the program and recent changes, we conducted interviews with a range of program partners, including representatives from trade associations, retailers, states, utilities, and other interested parties involved with the Energy Star program. Several product retailers were selected from EPA's list of program partners. We selected states and utility companies with energy efficiency programs that were geographically dispersed. We also conducted structured interviews of a nongeneralizable random sample of 23 manufacturers that were listed as Energy Star partners to gain an understanding of their views of the program. However, because the sample is nongeneralizable, these views may not be reflective of the views of all program partners. We conducted this performance audit from August 2010 to September 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The Energy Star program is one of several federal government programs that focus on reducing the nation's energy consumption. The Energy Star program also includes the goal of reducing greenhouse gas emissions and energy consumption by transforming the market for energy-consuming products through voluntary partnerships with public and private organizations. The program is divided into three sectors: commercial; industry; and residential, which includes product labeling.⁶ Specifically, the program describes its product-labeling effort as a means for consumers to easily identify and purchase energy-efficient appliances that offer savings on energy bills without decreasing performance.

The Energy Star program has grown and evolved since it began. EPA started Energy Star in response to the Clean Air Act Amendments of 1990⁷ and the Energy Policy Act of 1992⁸ in an effort to explore

⁶This report focuses on the residential product-labeling sector of the Energy Star program.

⁷Clean Air Act Amendments of 1990, Pub. L. No. 101-549, § 901(c), 104 Stat. 2399, 2703 (1990) (codified as amended at 42 U.S.C. § 7403(g)).

⁸Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992).

nonregulatory strategies for preventing or reducing pollution. In 1992, the program started labeling energy-efficient products in the marketplace. DOE partnered with EPA in 1996 to jointly manage the program. At that time, the two agencies signed a memorandum of cooperation describing each agency's responsibilities related to use and oversight of the Energy Star label.⁹ DOE also assumed responsibility for developing product performance criteria for specific product categories, including refrigerators, dishwashers, and room air conditioners. In the Energy Policy Act of 2005, Congress formally authorized the Energy Star program to identify and promote energy-efficient products and buildings.¹⁰ The act further specified three goals for the program: reducing energy consumption, improving energy security, and reducing pollution.

The Energy Star program has thousands of program partners, including manufacturers, retailers, utilities, government entities, energy efficiency organizations, finance partners, and home builders. To become a program partner, the business or organization voluntarily signs a partnership agreement with EPA. The agreement includes a commitment to use the partnership and Energy Star label as a means of promoting energy efficiency. Manufacturer partners must also identify the product category or categories in which their company seeks to qualify products—such as appliances or office equipment. Program partners can use the Energy Star label and other marketing material as part of their energy efficiency and environmental activities (see fig. 1).¹¹

⁹See EPA and DOE, *Memorandum of Cooperation on Energy-efficient, Environmentally Beneficial Buildings* (May 29, 1996) (superseded by 2009 MOU).

¹⁰Energy Policy Act of 2005, Pub. L. No. 109-58, § 131, 119 Stat. 594, 620 (2005) (codified as amended at 42 U.S.C. § 6294a).

¹¹The Energy Star is a registered trademark owned by the U.S. government.

Figure 1: Energy Star Label



Source: Energy Star.

Benefits of the Program

According to EPA documents, the Energy Star program contributes to EPA's national energy and greenhouse gas reductions goals. EPA estimated that, in 2010, the Energy Star program collectively prevented 170 million metric tons of greenhouse gas emissions—roughly the equivalent of the annual emissions of 33 million vehicles—and saved consumers about \$18 billion in energy costs.

Energy Star products are also eligible for various tax credit and rebate programs. For example, in July 2009, DOE provided almost \$300 million in funding from the American Recovery and Reinvestment Act (Recovery

Act) to states and territories to promote energy reduction and stimulate the economy by encouraging consumers to replace older appliances with Energy Star-qualified products.¹² Each state and territory developed its own rebate program for various Energy Star-qualified products. The funds are expected to be expended by February 2012, with 56 states and territories participating in the rebate program. According to DOE documentation, as of May 2011, the program results include a total of 1.6 million consumer rebates totaling about \$239 million; of these rebates, 88 percent were for purchase of major household appliances; 10 percent for heating, ventilation, and air conditioning products; and 2 percent for water heaters. By providing rebates, this effort leveraged federal funds with about \$1.8 billion in consumer spending and is projected to result in an estimated annual energy savings of 1.5 trillion British thermal units (Btu), which is roughly equivalent to the greenhouse gas emissions from the electricity use of 38,000 homes in 1 year.¹³

Identified Weaknesses of the Program

Even with successes, prior reports by us, EPA's Office of Inspector General, and others have identified several problems with the Energy Star program and its management. In 2007, we reported on weaknesses in the Energy Star's labeling certification program.¹⁴ Among other things, we found that the program was qualifying products to carry the Energy Star label based on factors other than total energy consumption. For example, some products were qualified based on their energy consumption while in standby mode rather than when they were fully operational. EPA's Office of Inspector General identified other weaknesses in a report in 2007, including problems with EPA's documentation of the criteria it used to determine when to update product performance specifications, and little oversight of the use of the Energy Star label in retail stores.¹⁵ In addition, EPA's Office of Inspector General also found in 2010 that EPA's implementation of the Energy Star program was inconsistent with the program's authorized purpose.¹⁶ For example, it

¹²American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

¹³For this calculation, we used EPA's Greenhouse Gas Equivalencies Calculator, which can be found at <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.

¹⁴[GAO-07-1162](#).

¹⁵EPA OIG Report No. 2007-P-00028 (Aug. 1, 2007).

¹⁶EPA OIG Report No. 11-P-0010 (Oct. 28, 2010).

found the program sought to maximize the number of qualified products at the expense of identifying products and practices focused on maximizing energy efficiency. Also, in 2010 we reported on serious vulnerabilities with the Energy Star's process for qualifying products, which was generally based on self-certification of products by manufacturers.

MOU

In September 2009, EPA and DOE signed an MOU to address the vulnerabilities we and EPA's Office of Inspector General identified.¹⁷ The MOU's purpose is to enhance and expand federal programs that advance energy efficiency—including Energy Star—to address climate change, economic, and energy security issues. In addition, the MOU outlines common goals and objectives, including expanding and enhancing federal energy efficiency programs, building on each agency's role in advancing energy efficiency, and realigning program roles and responsibilities to most effectively implement their programs.

The MOU also outlines four changes specific to the Energy Star program.¹⁸ First, it restructures the management of the program, making EPA the lead agency and giving it responsibility for establishing performance levels for all Energy Star products. Under the MOU, DOE's primary role in the products component is leading the development of product-testing procedures. In addition, the MOU established a governing council consisting of officials from both agencies to oversee their collaboration and provide oversight for the program.

Second, the MOU increases the amount of testing required to verify the performance of Energy Star-qualified products. Before the MOU, the program generally relied on a self-certification process for manufacturers to qualify products for the Energy Star label. Under the MOU, all products are now required to be tested in an accredited laboratory, and the results submitted to EPA before the products can be qualified for the Energy Star label. In addition, the MOU calls for increasing the amount of market-based testing used to verify that Energy Star-qualified products continue to meet program requirements. For this testing, selected products are

¹⁷The 2009 MOU superseded the previous 1996 agreement.

¹⁸The MOU also outlines proposed changes to DOE's National Building Rating Program; however, this program was not reviewed as part of this report.

taken off the shelf at retail locations and tested to determine whether they meet the Energy Star standards. The MOU also calls for the market-based testing to consist of a combination of EPA and DOE testing and manufacturer-funded testing administered by EPA or DOE, or testing by other third parties.¹⁹

Third, according to the MOU, the Energy Star program will aim to expand the number of qualified products while updating product performance specifications more frequently and stringently. Specifically, the MOU outlines an objective of broadening the program's coverage of energy-efficient products, especially those in product categories that are in widespread use and consume significant amounts of energy. Under the MOU, the program set a goal of doubling the number of new product categories (from the current level) added to the program annually, depending on the availability of resources.²⁰ The MOU also calls for the program to implement more stringent product performance specifications to ensure that the Energy Star label continues to represent top-performing products. The MOU outlines criteria for determining when product performance specifications should be updated: either when a certain amount of time has elapsed or when Energy Star-labeled products achieve a certain market share. For example, for products considered to be "rapidly evolving"—such as office equipment—the specifications will be updated about every 2 years. For products considered to be "longer-lived"—such as home appliances—specifications will be reviewed for possible revisions at least once every 3 years or when the market share of qualified products reaches about 35 percent—that is, according to EPA officials, when 35 percent of the shipments of a particular product qualify for Energy Star. The MOU also requires manufacturing partners to annually submit shipment data for their Energy Star products to EPA to assist in EPA's tracking of market penetration and overall evaluation of the program.

Fourth, the MOU proposed a new program to promote the "top-tier" of energy-efficient products in Energy Star product categories. Specifically, the MOU states the program would highlight about the top 5 percent of the products within a product category. The program would also promote

¹⁹The MOU did not provide specific requirements for third-party testing.

²⁰According to EPA officials, the program historically added an average of one or two product categories each year.

advanced technologies associated with these most energy-efficient products in order to drive market acceptance of the products. The MOU states the new program would remain as part of the overall Energy Star program. In addition, the MOU stipulated that a marketing and brand analysis would be conducted to provide options on how to identify and label the program. As with the overall Energy Star program, the MOU designated EPA as the lead agency for the new program, with DOE providing technical support.

Budget

Over the past 5 years, EPA and DOE have spent about \$288 million on the Energy Star program. Despite changes to the program during this time, including implementation of the MOU, the program budgets have remained relatively stable over this time (see table 1).

Table 1: Energy Star Program Budgets, Fiscal Years 2007 to 2011

(Dollars in millions)

	2007	2008	2009	2010	2011	Total
EPA	\$45.9	\$48.2	\$49.7	\$53.6	\$53.3	\$250.7
DOE	8.8	6.7	7.5	7.0	7.0	\$37.0
Total	\$54.7	\$54.9	\$57.2	\$60.6	\$60.3	\$287.7

Source: Budget authority enacted, EPA and DOE budget documents.

Additional Federal and Nonfederal Energy Reduction Efforts

Federal agencies also manage additional efforts that have a significant focus on energy reduction and complement the Energy Star program. These include DOE's federal minimum efficiency standards and the Federal Trade Commission's (FTC) EnergyGuide labeling program. Congress first mandated that DOE develop minimum federal standards for energy efficiency for select appliances under the Energy Policy and Conservation Act (EPCA) of 1975.²¹ Currently, appliances subject to the standards include refrigerators, freezers, room air conditioners, clothes washers and dryers, dishwashers, kitchen ranges and ovens, pool heaters, water heaters, fluorescent lamp ballasts, and incandescent

²¹Energy Policy and Conservation Act of 1975, Pub.L. No. 94-163 § 325, 89 Stat. 871, 923 (1975) (codified as amended at 42 U.S.C. § 6295).

reflector lamps.²² EPCA also prescribed energy labeling requirements that became the EnergyGuide, which is administered by FTC with assistance from DOE.²³ The program requires product manufacturers to label and prominently display energy consumption information and annual energy costs for select household products, on the yellow EnergyGuide label.

In addition to these federal efforts, other nongovernmental efforts focus on energy efficiency. For example, the Consortium for Energy Efficiency develops performance specifications for use by its North American members, for certain products.²⁴ The specifications are developed by the consortium's membership for voluntary adoption by the individual program administrators and their programs. Furthermore, a retailer—the Home Depot—has a labeling brand—Eco Options—for environmentally friendly products and models the retailer stocks; however, energy efficiency is just one focus of the program.

EPA and DOE Have Made Progress in Their Ongoing Efforts to Implement Significant Changes to the Energy Star Program

Since agreeing to the MOU in 2009, EPA and DOE have made considerable progress in their ongoing efforts to implement significant changes to the Energy Star program, including expanding product testing, updating program requirements, and establishing a pilot program to promote the most efficient Energy Star products.

EPA Has Significantly Expanded Product Testing

EPA and DOE have taken steps to significantly expand product testing to qualify products for the Energy Star label and verify that marketed

²²The standards have been updated many times since being established by Congress, most recently by the Energy Policy Act of 2005, Pub. L. 109-58 (2005).

²³Energy Policy and Conservation Act of 1975 at § 325.

²⁴The Consortium for Energy Efficiency is a nonprofit public benefit corporation whose members include utilities, statewide and regional market transformation administrators, environmental groups, research organizations, and state energy offices in the United States and Canada.

products continue to meet program requirements. As part of this expansion of testing, and in recognition that the new emphasis on testing represented a significant change to the terms and conditions for participating in the Energy Star program, EPA revised the manufacturer partnership agreement in 2010 to incorporate the expanded testing requirements. EPA required partners to demonstrate their understanding and acceptance of these new requirements by recommitting to the program by November 30, 2010. Agency officials told us they did not track how many manufacturers elected not to renew their partnerships as a result of the program changes.

In 2010, EPA developed and instituted new testing procedures for products to qualify for Energy Star recognition, as called for in the MOU. Under these procedures, before a new product can be qualified to carry the Energy Star label, it must be certified as meeting program requirements by an EPA-recognized third-party certification body based on the results of tests conducted by an EPA-recognized test laboratory.²⁵ Each recognized certification body and test laboratory must be accredited by an EPA-recognized accreditation body. The new procedures took effect on January 1, 2011.²⁶

In developing the conditions and criteria for recognizing the accreditation bodies, certification bodies, and test laboratories, EPA leveraged existing international standards and consulted with testing experts, Energy Star partners, and other stakeholders.²⁷ As described by EPA documents, the

²⁵In some instances, manufacturers can use their own in-house test laboratories if they have been accredited by an EPA-recognized accreditation body, or enrolled in a certification body's supervised or witness testing program.

²⁶The new third-party certification requirements did not apply to products listed with the program prior to January 1, 2011. The third-party requirements will be phased in over the next 2 years as the program completes specification revisions for all product categories. No product will be eligible to carry the Energy Star label after the effective date of any specification revision unless it has been third-party certified.

²⁷There are different criteria for accreditation bodies, certification bodies, and testing laboratories. For accreditation bodies, the Energy Star criteria require at a minimum that they comply at all times with the International Organization for Standardization's ISO/IEC 17011 standard that established general requirements for conformity assessment bodies. For certification bodies, they generally must maintain accreditation to ISO/IEC Guide 65, "General requirements for bodies operating product certification systems." Testing laboratories must be certified to ISO/IEC 17025, "General requirements for the competence of testing and calibration laboratories."

criteria are intended to provide EPA with information to evaluate whether an organization has the technical competence and quality management processes in place to provide impartial test results. EPA issued the final recognition criteria in the summer of 2010 and began accepting applications. As of August 2011, there were over 350 EPA-recognized testing and certification organizations spanning 35 Energy Star product categories.²⁸ EPA officials told us that the program continues to accept applications on an ongoing basis and said that they believe the number of recognized test labs and certification bodies should provide manufacturers with options in obtaining the services they need to get their products tested and approved to carry the Energy Star label. According to EPA data, as of May 2011, the program has received certified performance information for about 10,000 new products since the requirements took effect.

EPA and DOE are also continuing with efforts to expand their postqualification testing programs to verify that Energy Star-labeled products available to consumers in the market meet performance requirements. Historically, EPA conducted limited verification testing of Energy Star-qualified products and targeted its testing on products in high-volume categories, such as televisions and computers. According to agency records, EPA did not test Energy Star products from 1992 through 2001, but initiated limited testing beginning in 2002. For example, agency data show that EPA tested 244 product models in 14 categories between 2002 and 2009 out of the thousands of models and over 60 product categories that are included in the program. EPA's expanded verification testing program will be manufacturer-funded and implemented through its recognized certification bodies, and the program will begin testing by the fall of 2011. According to EPA guidelines, under the expanded testing verification program, the certification bodies will be required to annually test a percentage of the models they have certified in each product category. At least half of the models to be tested will be randomly selected, with the remainder selected based on consideration of other factors, including prior testing failures, high sales volumes, referrals from EPA or other third parties such as consumer groups, or requests from a manufacturer to verify the performance of a competitor's product. EPA officials told us they have finalized additional guidance, provided training,

²⁸These numbers do not completely reflect the number of supervised or witness laboratories or the EPA-recognized lighting certification bodies and laboratories, which are maintained in separate lists.

and will be working closely with the certification bodies as they begin selecting products for testing later this year.

DOE describes its Energy Star verification testing program as being complementary and parallel to EPA's verification testing program. The DOE program will target the subset of Energy Star-labeled products that are also part of DOE's federal minimum efficiency standards program.²⁹ The verification testing program is a continuation of DOE's 2010 pilot program that focused on verifying the energy efficiency and water use of Energy Star products that were eligible for state residential appliance rebate programs supported with funding from the 2009 Recovery Act. Unlike the verification testing program administered by EPA-recognized certification bodies, DOE's verification testing program is agency-funded. According to DOE officials, the proposed plan does not specify a percentage or goal for the number of products to be annually tested as part of its program. Additionally, the proposed plan does not indicate that DOE will be selecting products randomly for testing, but instead proposes to target products based on a variety of factors, including a history of failing to meet Energy Star program requirements, new technologies, and categories with known performance issues. DOE is in the process of responding to comments about its proposed plan, and officials told us they anticipate finalizing the verification testing program in late summer of 2011. EPA and DOE officials told us that they were aware of concerns about having two verification testing programs and that they are working closely to coordinate their efforts and minimize the potential for duplication between their respective testing programs. These officials also told us that some overlap in testing may be beneficial and could provide an opportunity to monitor how consistently the testing organizations interpret and apply the various Energy Star test procedures.

EPA and DOE's verification testing programs will follow the same approach to verify performance based on how the product initially qualified for the Energy Star label. Products can qualify for the Energy Star label in one of two ways. For products not covered by DOE's federal minimum efficiency standards, such as computers, Energy Star

²⁹In addition to using the results to disqualify products from the Energy Star program, the results will also be used to ensure covered products comply with federal minimum efficiency standards. According to DOE's proposed verification testing plan, the agency will also notify FTC if it finds a product is not properly rated or is represented inaccurately on its Energy Guide label.

specifications generally require that product qualification be based on results from a single test. For those products covered by DOE's minimum efficiency standards, or where allowed by the applicable Energy Star specification, a product is qualified for the program based on results from multiple test samples. For an Energy Star product that a manufacturer qualified based on a single representative model, verification testing will similarly be based on the performance of a single unit.³⁰ In this approach, the selected unit must at least meet the applicable Energy Star specification, with no tolerance for any variation below this level. For a product qualified using multiple test samples, four units will be selected for testing. A spot check test will initially be used to evaluate the performance of a single unit. If the results of this test show the unit failed to meet the requirement by less than 5 percent of the Energy Star criteria, then no additional testing will be conducted on the other units. If the test finds that the unit performed more than 5 percent below the applicable specification, then each of the remaining units will be tested and statistical methods applied to determine whether the product fails to meet the performance specifications. Under both verification testing programs, tested models are to be obtained from the shelves of retail locations or warehouses whenever possible. In instances where pulling a product from a retail shelf or warehouse is not feasible, certification bodies may make arrangements to conduct supervised verification tests at the manufacturing facility. This would include instances where the selected product is prohibitively expensive to purchase or transport, made to order, or otherwise unavailable through customary retail outlets. Ultimately, the certification bodies are responsible for selecting and procuring models for testing, and are not permitted to let the manufacturer choose the test sample.

EPA has taken initial steps to establish standard procedures for disqualifying products from the Energy Star program based on the results of verification testing programs. Under existing statutory authority for the Energy Star program, EPA does not have statutory enforcement authority to ensure compliance with program requirements. Instead, EPA generally relies on federal trademark law protections and the terms and conditions of its partnership licensing agreements to ensure proper use of the Energy Star label and adherence to program requirements. Among the

³⁰Since DOE's testing will be targeted at the subset of Energy Star products that are also covered by the minimum efficiency standards, it will not be using this approach for its testing.

terms and conditions of the manufacturing partnership agreement, the partner agrees to meet Energy Star eligibility criteria and applicable performance specifications as well as follow program guidelines for proper use of the Energy Star marks. The agreement also provides that EPA, DOE, and the program partners will work in “good faith” to informally resolve conflicts to the extent possible.³¹ An agency official explained that while the program had not publicly issued standard disqualification procedures, the program in the past had included procedures as part of the specifications for certain product categories that served to broadly communicate the process to other manufacturing partners. However, given the expanded product verification testing implemented as part of the changes agreed to in the MOU, EPA and DOE recognized the need for a standard protocol that would increase the transparency involved in Energy Star disqualification decisions, including the triggers for taking action and communicating about disputed issues. EPA is working to finalize these procedures, which officials expect to issue by the end of the year.

In the meantime, EPA has issued guidance to the certification bodies that outlined the process for notifying EPA about testing failures and opportunities for manufacturers to submit additional information for the agency to consider as part of its determination of whether it should pursue any disqualification action. In a May 2011 directive to the EPA-recognized certification bodies, EPA is requiring certification bodies to report test failures to the agency within 2 days of determining a product has failed the Energy Star testing. EPA stated that it will then notify the manufacturer and give it 20 days to respond in writing with any additional information. The directive indicates that EPA will review relevant information to determine whether additional evaluation is necessary, but the directive does not set a time period within which EPA will make a final decision. Instead, the directive states that EPA will provide additional time to resolve potential issues as appropriate.

For DOE-tested products, the process is similar, except that DOE will make the initial determination of whether the model fails to meet the applicable Energy Star specification, and then refer failures to EPA for

³¹If the parties cannot reach a mutually agreeable resolution, either side can provide the other with written notice of the nature of the dispute, specific corrective actions being sought, and notice of intent to terminate the partnership unless the corrective actions are taken. Each side has 20 days to respond to the notification.

further action. Under either scenario, EPA is ultimately responsible for making all Energy Star-related disqualification decisions. If it decides to disqualify the product, the manufacturer will be required to discontinue using the Energy Star label on that product model and take other corrective actions as directed. According to an EPA official responsible for managing the Energy Star program—a voluntary program whereby EPA relies on federal trademark law protections and the terms and conditions of the partnership agreements—the agency’s decisions regarding product disqualification are final and not subject to judicial review or other formal administrative review process.

EPA Has Taken Initial Steps to Update the Program

As the lead agency responsible for managing the Energy Star brand, EPA has taken steps to update program requirements by broadening the number of included product categories as well as updating performance specifications for existing products. Since 2009, EPA and DOE have finalized new specifications for 2 residential product categories: computer servers and integral light-emitting diode (LED) lamps.³² EPA is currently developing specifications for another 5 product categories, including residential climate controls and data center storage equipment, to be added in late 2011 or 2012. The agency is also researching the potential addition of another 15 product categories with high energy savings potential, such as clothes dryers and countertop appliances. According to agency officials, EPA’s efforts to expand the number of categories covered by the Energy Star program depend on available resources, and its ongoing priority is maintaining updated specifications for existing products.

In addition to expanding the Energy Star program, EPA has also taken steps to ensure that required product performance specifications are updated more frequently for existing product categories and make them more stringent as markets and technologies advance. EPA has developed a schedule to review and update, as necessary, performance specifications for all Energy Star product categories by calendar year 2013. In developing this schedule, EPA evaluated market share, test procedure issues, changes to federal minimum standards, technological advancements, and other opportunities to expand program coverage. In

³²An integral LED lamp is a lamp with LEDs, an integrated LED driver, and a standardized base designed to connect to the branch circuit via a standardized lamp holder/socket.

2010, all of the “longer-lived” product categories with market shares over 35 percent as of 2008 were scheduled for review, as well as 25 percent of the “rapidly evolving” products that have had specifications issued in the past 3 years. EPA initiated several product specification updates in 2010, including reviews of the criteria for televisions, computers, and dishwashers, and currently has 25 specifications under review in 2011. In the 2011 Joint Energy Star Work Plan, EPA stated that it would be able to complete approximately 21 updates by the end of the year. A number of the revisions have already been completed, including updates for televisions, residential dishwashers, and furnaces. However, EPA officials told us that the anticipated timelines to complete some updates have been extended and will likely be completed sometime in early 2012.

As part of the 2009 MOU, the agreement reiterated one of the program’s long-standing criteria that Energy Star performance specifications should be set so that labeled products represent approximately the top 25 percent of available models.³³ As most of the updates to Energy Star specifications are currently under development, we could not evaluate how effective the program has been overall in meeting this criterion. However, for some completed updates, EPA has moved to set more stringent performance specifications. For example, EPA notified program partners in October 2010 that it was planning to initiate a review of DOE’s 2008 performance specification for residential dishwashers, which included a more stringent level that was set to take effect in July 2011. In EPA’s analysis, the agency estimated that more than 87 percent of standard-sized residential dishwashers would meet the 2008 DOE specification. EPA has replaced that specification with a newer version that includes more stringent criteria that will take effect in January 2012. In developing the updated specification, EPA’s analysis projected that 21 percent of standard dishwasher models would meet this updated performance level. Similarly, in developing an updated specification for gas furnaces, EPA estimated that between 8 and 13 percent of available models would meet the new performance levels ultimately adopted by the

³³In setting Energy Star performance specifications, EPA guidance states that it follows a set of six guiding principles: (1) significant energy savings can be realized on a national basis, (2) product performance can be maintained or enhanced with increased energy efficiency, (3) purchasers will recover their investment in increased energy efficiency within a reasonable period of time, (4) energy efficiency can be achieved with several technology options, (5) product energy consumption and performance can be measured and verified with testing, and (6) labeling would effectively differentiate products and be visible to purchasers.

agency in June 2011. In response to comments on the draft furnace specification, EPA acknowledged that while this was less than the program's typical 25 percent level, product availability should increase for consumers by the time the specification takes effect in February 2012. EPA officials also told us that while they are striving to set Energy Star specifications so that the label serves as a meaningful differentiator for energy-efficient products, projecting the makeup of the market when the updated specifications take effect can be difficult.

Under the MOU, DOE has lead responsibility for developing and updating the test procedures that are used to measure the efficiency of Energy Star products. According to a DOE planning document, the agency expects to complete development of new test procedures and updates to existing ones for all Energy Star product categories within the next 5 years. DOE reported it had updated test procedures for five Energy Star products in 2010 and has established a schedule to prioritize its review of the test procedures for 25 Energy Star product categories in fiscal years 2011 and 2012. EPA and DOE officials told us that as they continue to transition into their roles outlined in the 2009 MOU, officials from both agencies meet regularly to coordinate their activities and work together to resolve test procedure issues as they arise during the specification update process.

EPA Is Conducting a Pilot Program to Promote the Most Efficient Energy Star Products

Under the 2009 MOU, EPA and DOE agreed to explore a SuperStar program that would identify the most energy-efficient Energy Star-labeled products in given categories. In October 2010, EPA released for comment its proposal for a pilot program—referred to as Top-Tier—that would promote and advance highly efficient products in the marketplace. In addition to seeking input from Energy Star program partners and other interested parties, EPA reviewed existing market research to evaluate consumer interests and preferences in highly efficient products. The agency also conducted a combination of one-on-one interviews with consumers across the country and 12 focus groups in four locations to explore various aspects of the proposal. Specifically, EPA sought consumers' views on the proposal's potential to harm the Energy Star brand—by confusing consumers—and their willingness to pay more for higher-efficiency products. Additionally, EPA also gathered the consumers' reactions to various options to identify the top-tier products. For example, EPA presented alternative labeling options such as Most Efficient, Maximum Efficiency, Best in Class, and Top Tier. In general, EPA's findings suggested consumers did not think that the additional program would harm the Energy Star program and that some were willing

to pay more to purchase the most efficient products available. Moreover, the research also indicated that consumers get most of their information about new products through retail locations and the Internet.

In March 2011, after reviewing comments received on the initial proposal and incorporating findings from the consumer research, EPA elected to proceed with a pilot program. As part of this effort, EPA issued draft recognition criteria for seven product categories, including clothes washers, air source heat pumps, central air conditioners, furnaces, geothermal heat pumps, refrigerator-freezers, and televisions. Overall, EPA received comments from nearly 40 individuals and stakeholder groups on the program in general as well as the draft recognition criteria. On May 5, 2011, EPA announced the final eligibility criteria for the seven categories that will be included in the pilot program, now referred to as the Most Efficient program, along with instructions to manufacturers for obtaining the recognition.

To obtain the Most Efficient recognition, a manufacturer must inform EPA that it is interested in the designation, ensure that product performance has been certified by an EPA-recognized certification body, and confirm that the product meets the recognition criteria. Once the agency determines a product is eligible for the recognition, it will be highlighted on the Energy Star website and the manufacturer will be given access to use the Most Efficient marketing template, shown in figure 2. EPA's guidance stipulates that the designation is not to be used as an additional product or packaging label, but is intended for use in marketing and promotion through in-store materials and websites. As of August 10, 2011, EPA had recognized 78 models as Most Efficient across five of the seven categories, including 15 clothes washers, 18 televisions, 26 central air conditioners, 17 air source heat pumps, and 2 refrigerator-freezers.³⁴

³⁴Based on Energy Star product list available at http://www.energystar.gov/index.cfm?c=most_efficient.me_index, last accessed on August 10, 2011.

Figure 2: EPA's Energy Star Most Efficient Marketing Template



Source: Energy Star.

According to EPA documents, the goal of the pilot program is to drive the most energy-efficient products into the market at a quicker pace. In publicly announcing the program to consumers in July 2011, EPA and DOE officials said that the new designation will provide manufacturers with incentives to find innovative ways to achieve greater energy efficiency gains while providing consumers new information about top-performing products. In a letter to stakeholders describing the final eligibility criteria for the pilot program, EPA stated that the program was being targeted at early adopters and environmentally motivated consumers who are interested in products that demonstrate efficiency that is “truly exceptional, inspirational, or leading edge” without compromising performance. For example, for medium- to large-volume clothes washers, the recognition criteria, among other things, require that the models be 50 percent more energy-efficient and use 45 percent less water than the standard Energy Star-qualified models. In response to comments EPA received about the criteria and inability of certain products to qualify for the recognition, EPA has stated that the program may not be suitable for all product sizes and configurations. For example, in our analysis of the recognition criteria for refrigerator-freezers, we found that only two of the seven configurations of refrigerator-freezers that are currently eligible to qualify under the basic Energy Star

specification have models that would meet the most efficient criteria.³⁵ In addition, our analysis indicated that none of the almost 600 Energy Star-qualified refrigerator-freezers with through-the-door ice functionality would satisfy the recognition criteria.

The pilot phase was originally planned to run from May 5, 2011, through December 31, 2011, but agency officials told us they expect to extend the program into 2012. EPA will evaluate the program to determine whether it should continue beyond 2012, and if so, whether to include additional products, EPA is still developing the specific evaluation criteria and its plans for obtaining consumer feedback about the pilot program. If the Most Efficient program is continued beyond the pilot phase, EPA plans to annually issue new program requirements and announce any new product categories to be added prior to the beginning of each calendar year.

Program Partners Generally Had Favorable Views of the Energy Star Program but Identified Several Areas of Concern

Program partners we contacted generally had positive views of the Energy Star program and recently implemented changes but raised primary concerns about the program's ongoing changes. In particular, program partners raised three areas of concern: that the program may become less voluntary in nature, that EPA's ongoing pilot program to promote the most highly efficient products could diminish the value of the Energy Star label, and that the cost of participating in the program is rising.

Program Partners Generally Had Positive Views of the Energy Star Program

The majority of Energy Star program partners and other interested groups we spoke with, such as representatives of manufacturing trade associations and groups advocating on behalf of efforts to increase energy efficiency, viewed the program favorably. For example, 18 out of 23 manufacturing partners we interviewed said they were either satisfied or very satisfied with their decision to become an Energy Star program partner, while another 4 said they were neither satisfied nor dissatisfied.

³⁵These are top-mounted freezers and bottom-mounted freezers. Refrigerators without a freezer component are excluded from the program. The recognition criteria require that models be at least 30 percent more efficient than the federal efficiency standard and use less than 422 kilowatts per year.

The foremost strengths these and other program partners identified were the overall strength of the Energy Star brand itself and its wide recognition by American consumers. Specifically, when asked to identify the strengths of the Energy Star program, 21 out of the 23 manufacturing partners we spoke with identified the Energy Star brand recognition as one of the program's top strengths. In addition, several retailers that we spoke with cited brand recognition as a top strength of the Energy Star Program. Program partners also told us that the simple nature of the label was effective in helping consumers identify energy-efficient products, and served as a good marketing tool for manufacturers and retailers. Almost all of the manufacturing partners we spoke to, as well as some other program partners, stated that EPA has done a good job of promoting the label to consumers. In addition, several retailers we interviewed identified high Energy Star brand awareness among consumers as a positive program attribute. Most retail and manufacturing partners also told us that the loss of the Energy Star program would be detrimental to their businesses. For example, most manufacturing partners stated that the fact that Energy Star was a nationally recognized, government-sponsored program helped their efforts to develop and promote energy-efficient products to consumers. In addition, some of the program partners we spoke with said that without the Energy Star label, a new type of energy-efficient label, or a revision of an existing energy label, could replace the Energy Star label; however, the lack of federal government support would undermine its credibility.

Many of the program partners we spoke with also viewed the changes being implemented as a result of the MOU favorably, although their perceptions varied. For example, many retail, state, and utility partners told us they believe the new third-party testing and certification procedures increase the program's credibility. Officials from one state agency stated the new process will have a "huge positive impact" on consumer confidence. In addition, most program partners we contacted told us they generally supported steps taken in the MOU to clarify agencies' roles and establish a single agency as the brand manager. Some of the program partners we spoke with said that, in their opinion, prior to the MOU, collaboration and communication between DOE and EPA was poor and at times confusing. Since the MOU took effect, many program partners, as well as energy efficiency groups, recognized significant improvements in communication and coordination between the two agencies. However, program partners varied in whether they thought DOE or EPA should have been designated as the lead agency for managing the Energy Star program given the differing expertise associated with each agency. For example, one manufacturing partner

we spoke with said that he viewed EPA as a good brand marketer but viewed DOE as having more technical expertise.

Program Partners Raised Concerns about Some Ongoing Program Changes

Program partners and other interested groups, such as representatives from manufacturing trade associations and energy efficiency groups, expressed three areas of concern about the ongoing changes to the Energy Star program.

Shift in the voluntary nature of the program. First, program partners and other interested parties expressed concern that the ongoing changes are shifting the voluntary nature of the program to include elements of some traditional regulatory programs but without the procedural safeguards of such programs. For example, a few manufacturing partners and an appliance manufacturing association we spoke with expressed concern that while the decision to become a partner in the program is voluntary, having qualified Energy Star products is often necessary to compete for placement in key retail stores. In addition, one manufacturing partner we spoke with sold its products almost exclusively to federal, state, or local governments, which were required to procure only Energy Star-qualified products. In addition, several federal tax credits are available for certain residential consumer products such as heating and cooling systems, windows, and doors that meet Energy Star requirements.³⁶ Similarly, states and utility companies we spoke with said they offer rebates to consumers for purchasing Energy Star-qualified products. All the rebate programs we reviewed required products that were—at a minimum—Energy Star-qualified. A representative from an appliance-manufacturing association that represents many of the appliance-manufacturing partners noted that some of the changes implemented under the MOU are similar to procedures found in some more traditional regulatory programs, such as third-party certification, verification testing, and enforcement for qualified products. Traditional regulatory programs also afford affected stakeholders with *Federal Register* notice of, and significant opportunities to comment on, agency action. Given the importance of participating in the program, representatives from a manufacturing association also raised concerns that the Energy Star program does not have an independent administrative review process where adverse agency actions

³⁶Federal tax credits are also available for appliance manufacturers producing certain dishwashers, clothes washers, and refrigerators that exceed Energy Star standards.

related to setting specifications and disqualifications can be reviewed prior to seeking judicial review. For example, the Department of Agriculture's National Appeals Division provides an independent forum within the department for program participants to seek administrative appeals of adverse agency decisions. In addition, the manufacturing association representatives said the program should retain its voluntary nature but incorporate more of the transparency and procedural safeguards associated with a typical regulatory program. Representatives from another trade association we spoke with said the program could benefit from having more structure for soliciting comments on specification revisions and more clearly articulating how the comments were handled in the final decision. Nonetheless, several program partners noted that the voluntary nature of the program and its requirements, which are less formal than those associated with a traditional regulatory program, provided greater flexibility and allowed the program to respond more quickly to change.

Many manufacturing partners we spoke with also told us that they believed EPA's key decisions—including its basis for updating product specifications and testing requirements—lack transparency. Most manufacturing partners expressing an opinion rated the program's responsiveness to partner input, as well as its processes for resolving potential disputes related to testing and enforcement, as fair or poor. One LED lighting manufacturer felt EPA lacked transparency by not providing adequate justification for the amount of testing required to qualify its new product line. As a result, the manufacturer did not understand why it would need to test its product in excess of what was required of other LED lighting manufacturers using a different technology. After discussions with EPA, the agency modified the amount of testing initially proposed, but the manufacturer still felt the agency had not clearly articulated a basis for the increased testing. This manufacturer asserted the basis for EPA's decision in this case was unclear and unfair, and the manufacturer was frustrated that the program had no mechanism for reviewing this decision.

Ongoing pilot program. Second, program partners we spoke with differed on their views of EPA's new pilot program to promote the most efficient products. About half of the manufacturing partners stated that it may harm the Energy Star program, and over half of those partners told us they would consider dropping out of the program or reducing the number of

products they have certified because of various reasons including the Most Efficient program and higher costs of certification.³⁷ Some of these partners raised concerns that creating two classes of Energy Star products could diminish the value of the Energy Star label for manufacturing partners whose products meet the standard Energy Star specification but may not rank among the most efficient products. For example, a few manufacturing partners said if the pilot program becomes a permanent part of the Energy Star program, then they would consider the Energy Star label to be “second class” and would consider completely withdrawing from the program. Some of the smaller manufacturing partners we spoke with also said that while several of their products may meet the Energy Star specifications, the high cost of product certification may mean they can pursue certification only for products that would be eligible for Most Efficient recognition, which could remove some of their energy-efficient products from the Energy Star program. As a result, consumers, faced with the more efficient yet often more costly products, may purchase fewer energy-efficient products. In addition, some program partners we spoke with expressed concerns that consumers may become confused with a new recognition promoting the most efficient products. These program partners, as well as retail partners we spoke with, said that they believe consumers generally prefer the simple nature of the existing Energy Star label as a means for them to easily identify energy-efficient products over a tiered program with more than one efficiency class. In addition, a few manufacturing partners told us that they view some eligibility requirements for the pilot program as reflecting criteria beyond energy efficiency. For example, a manufacturing partner told us that one of the requirements for air conditioning units to qualify for the Most Efficient designation was to have certain features that provide diagnostic information, even though, in their opinion, these controls do not affect the amount of energy the unit uses.³⁸

³⁷ Eight program partners viewed the pilot program as a positive addition to the Energy Star program and identified positive benefits, including that the pilot program could encourage business innovation and consumers to purchase more efficient products.

³⁸ According to EPA’s response to comments on its draft proposal, several published studies have examined the efficiency difference between units as tested in the lab and as they work in the field. Poorly maintained systems can use 20 percent more energy than well-maintained, properly installed systems. The communication and diagnostic requirements EPA has included as part of the recognition criteria are meant to mitigate these losses.

Rising cost. Third, some program partners and other parties raised concerns about the rising cost of participating in the program. For example, many of the manufacturing partners and representatives from both of the trade associations we spoke with view the third-party testing and certification procedures as an unnecessary expense. Almost all of the manufacturing partners we spoke with stated the cost to participate in the program had increased. Some manufacturing partners—particularly small manufacturers or manufacturers with few Energy Star products—also told us the increasing costs could discourage their participation. Some small companies expressed concerns that EPA has not considered the impact that these increased costs will have on their level of participation. As a result of the rising costs, a few of these manufacturers said competition will likely decrease, bigger businesses will dominate the markets, and prices will begin to rise. One manufacturing partner stated that the certification costs are too high for specialty or one-of-a-kind products. This manufacturer said the costs to certify such products would increase the overall costs to participate, so manufacturers producing these types of products would have to drop out of the program. However, almost all of the manufacturing partners we contacted said that while they may limit the number of products they submit for the Energy Star label, they plan to continue as a program partner at this time.

Conclusions

Since its inception, the Energy Star program has evolved from a small program focused on computers and monitors to a widely scoped program that represents thousands of products and claims saving consumers billions of dollars in energy costs. The Energy Star program's success in promoting energy-efficient products is widely recognized, and consumers, manufacturers, utilities, and federal and state agencies rely on it. In particular, Energy Star plays an important role helping consumers choose energy-efficient products. The implementation of EPA's and DOE's MOU, developed in response to important weaknesses identified by us and others, has led to significant programmatic changes. The pace of progress to implement these changes is laudable, and if EPA and DOE can sustain this momentum, the proposed changes have the potential to strengthen the credibility of the brand and the program as a whole. However, as the agencies continue implementing changes under the MOU, it will be important to be attentive to the effects of these changes and identify any need for course corrections if and when such needs emerge.

The program partners we spoke with—in particular, manufacturers—provided insights into what may be early indicators of potential problems.

Many of the changes to Energy Star were necessitated by problems in how the program was previously structured, but the changes may be shifting the procedures of the program in a new direction residing somewhere between the voluntary partnership that EPA initially developed and a more traditional regulatory program. Part of this shift is a result of the market pressure some manufacturers feel to participate in Energy Star, which may make it no longer appropriate to characterize the program as truly voluntary. Another part of the shift is the addition of more substantial testing and increased efforts to identify and potentially disqualify nonconforming products—something clearly needed—but which heightens concerns over the apparently limited ability for manufacturers to seek an independent review of adverse agency decisions involving setting specification levels and disqualifying products.

Given the importance of the program, EPA's decisions have potentially significant implications for consumers or manufacturers. For example, if mistakes are made in verification testing and manufacturers are not given sufficient opportunity to seek independent review of these decisions, then some energy-efficient devices could be unfairly removed from the program, thus costing manufacturers sales and resulting in lost opportunities for consumers to save energy. Further, rising complexity and costs may eventually undermine manufacturers' participation in the program. Because the new third-party testing and certification process is increasing the cost for manufacturers to participate in the program, manufacturers—particularly smaller manufacturers or manufacturers with only a small Energy Star presence—are likely to pay careful attention to the overall costs and benefits of the program and may revisit their decisions to participate in it. In this light, it will be important for EPA to balance its increased emphasis on testing and improving the credibility of the program with feedback from partners on the costs of these new requirements. Finally, while the Most Efficient pilot program could boost the sales of highly efficient devices, this program—in the context of rising costs of participating in the program—could result in manufacturers declining to certify some devices, which may result in lost opportunities to reduce energy consumption.

Recommendation for Executive Action

To ensure decisions of the Energy Star program are fair and transparent, we recommend that the Administrator of EPA assess the need to develop a process for independent review of adverse agency decisions for the Energy Star program as it relates to setting specifications and disqualifications. If the Administrator of EPA determines that there is a need for an independent review process but that the agency has

insufficient legal authority to undertake one, it should seek additional authority from Congress.

Agency Comments and Our Evaluation

We provided EPA and DOE with a draft of this report for review and comment. We received written comments from EPA's Assistant Administrator, which are presented in appendix III. DOE did not provide comments on the draft report. In its comments, EPA stated its commitment to ensure the Energy Star label's credibility. In commenting on the report, EPA stated that the Energy Star program has made notable progress implementing changes to ensure the Energy Star label remains a credible designator of energy-efficient, environmentally friendly products in the market. Regarding our recommendation that the Administrator of EPA assess the need to develop a process for independent review of adverse agency decisions for the Energy Star program as it relates to setting specifications and disqualifications to ensure decisions of the program are fair and transparent, EPA neither agreed nor disagreed. EPA stated that close attention will continue to be paid to ensuring transparency in the program's operation and careful consideration of stakeholder input and interest. In addition, EPA provided technical comments and clarifications, which we incorporated as appropriate.

We are sending copies of this report to the appropriate congressional committees, the Administrator of EPA, the Secretary of Energy, and other interested parties. The report will also be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or ruscof@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix IV.



Frank Rusco
Director, Natural Resources and Environment

List of Congressional Requesters

The Honorable Jeff Bingaman
Chairman
The Honorable Lisa Murkowski
Ranking Member
Committee on Energy and Natural Resources
United States Senate

The Honorable Susan Collins
Ranking Member
Committee on Homeland Security and Government Affairs
United States Senate

The Honorable Lamar Alexander
Ranking Member
Subcommittee on Interior, Environment, and Related Agencies
Committee on Appropriations
United States Senate

Appendix I: Scope and Methodology

To determine the status of the Environmental Protection Agency's (EPA) and Department of Energy's (DOE) implementation of changes to the Energy Star program under its 2009 memorandum of understanding (MOU), we reviewed the program's authorizing legislation. We also reviewed agency documentation related to the Energy Star program and the MOU, including program policies, guidance, and draft and final versions of product performance eligibility criteria and specifications. We also interviewed key agency officials at EPA, DOE, and the Federal Trade Commission (FTC) regarding the implementation of the MOU and other associated issues.

To identify program partners' views of the Energy Star program and the changes that are under way, we interviewed representatives from five state energy offices in locations with significant outreach efforts, including the California Energy Commission and the New York State Energy Research and Development Authority, five regional utilities, six major retailers at the national and local levels, and two manufacturers' trade associations, as well as several energy efficiency organizations and consumer advocacy groups. We also visited Energy Star partners in several states, including California, Illinois, Washington, and Wisconsin, to learn their perspectives on the program. We interviewed officials from a DOE laboratory that specializes in energy efficiency and sustainable energy. We also met with representatives and toured a laboratory that is an EPA-recognized body for Energy Star product accreditation, certification, and verification testing. In addition, we obtained product manufacturers' perspectives of the Energy Star program and the ongoing changes through a series of semistructured interviews. EPA provided an updated list (as of January 1, 2011) of Energy Star manufacturing partners that produce residential products. We categorized the list into six product types: appliances, including clothes washers and refrigerators; building products, including windows and roofing; computers and electronics, including imaging equipment; heating and cooling products, including air cleaners and furnaces; lighting and fans, including light fixtures, compact fluorescent bulbs and solid state lighting; and plumbing, including water heaters. For manufacturers producing products in more than one of the above product categories, we created a seventh combination category. From this list of seven product categories, we randomly selected 23 manufacturers stratifying across the seven categories to participate in a telephone survey regarding their perceptions of the program and changes made since implementation of the MOU. The results of the closed questions from the surveys are included in appendix II. In addition, we asked several open-ended questions, which we later analyzed, to identify issues that were mentioned frequently and for which

there seemed to be common agreement. These comments were used to identify three areas of concern of the program partners about the changes to the Energy Star program. The results of the survey are nongeneralizable to the universe of all Energy Star manufacturing partners. Last, to obtain further information about manufacturers' views, we judgmentally selected other product manufacturers to interview separately from the survey.

We conducted this performance audit from August 2010 to September 2011, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Program Partners' Interview Responses

1. How important were the following to your company's decision to qualify your products to carry the Energy Star label?

	Extremely important	Very important	Moderately important	Somewhat important	Not at all important
Tapping into consumers' demand for energy-efficient products	7	10	4	2	0
Improving public awareness about the importance of energy efficiency	6	5	6	4	2
Promoting environmental protection through reduced energy consumption	3	8	6	5	1
Requiring products to have the Energy Star label by retailers	1	8	5	1	8
Other (please specify)					

2. On the basis of your experience with the program, how satisfied or dissatisfied is your company with the decision to become an Energy Star partner?

Very satisfied	8
Somewhat satisfied	10
Neither satisfied nor dissatisfied	4
Somewhat dissatisfied	1
Very dissatisfied	0

3. How would your company rate the Energy Star program in the following areas?

	Excellent	Very good	Good	Fair	Poor	No comment
The program's ability to increase consumer awareness and promote the brand to consumers	7	6	9	1	0	
The program's outreach to/communication with program partners, such as your company and other manufacturers	3	9	6	4	1	
The program's responsiveness to program partner input on program changes	0	1	7	9	4	2
The program's process for resolving potential disputes related to testing and enforcement activities	0	0	6	5	4	8

4. In your company's opinion, how do consumers perceive Energy Star-labeled products as compared with other products with respect to energy efficiency, cost effectiveness, and environmental friendliness?

	Much more	Somewhat more	Neither more nor less	Somewhat less	Much less
Energy efficiency	15	8	0	0	0
Cost effectiveness	2	5	13	3	0
Environmentally friendly	15	8	0	0	0

5. Has your company conducted market research to evaluate consumer perceptions of Energy Star-labeled products?

Yes	4
No	19
Don't know	0

Energy Star is a voluntary labeling program that was established to reduce energy consumption, improve national energy security, and

reduce pollution such as greenhouse gases by identifying and promoting products that meet the highest energy conservation standards.

6. In your company's opinion, how effective has the program been at meeting these goals?

Very effective	1
Effective	10
Moderately effective	7
Somewhat effective	4
Not at all effective	0
Don't know	1

What concerns, if any, does your company have about the direction of the Energy Star program and how it is meeting these goals?

7. To what extent does your company work with other Energy Star partners?

	Great extent	Some extent	Little extent	Not at all
Retailers	3	7	2	11
Utilities	0	8	7	8
States	1	4	9	9
Others program partners. Please specify:				

In 2009, EPA and DOE signed a memorandum of understanding (MOU) that designated EPA as the primary brand manager of the Energy Star labeling program, including marketing the brand and setting product specification levels. DOE will continue to provide technical support to EPA and lead development of product-testing procedures. Under the MOU, EPA plans to broaden the number of product categories covered by the program, update performance specifications more frequently, make the product qualification process more stringent by implementing third-party certification requirements, and identify super-efficient products through a

"top tier" program. Now, we'd like to ask some questions about these changes outlined in the MOU.

8. From your company's perspective, do you agree with the decision to designate EPA as the primary brand manager for all Energy Star product categories?

Yes	13
No	3
Don't know	7

9. One of the changes outlined in the 2009 MOU was a commitment to broaden the number of product categories that would be eligible to carry the Energy Star label. The plan calls for doubling the number of products that are added annually to the program. Would you say that continuing to expand the number of products eligible for the Energy Star label would enhance the value of the brand, reduce the value of the brand, or have no effect on the value of the brand?

Enhance value of brand	7
Have no effect	5
Reduce value of brand	11
Don't know/no opinion	0

10. What is your company's view on the number of product categories in the program? Would you say that there are too many, about the right amount, or not enough product categories?

Too many	4
About the right amount	6
Not enough	6
Don't know	7

The 2009 MOU also provides that product specifications will be updated more frequently and set more stringently. The agreement states that specification levels will be set so that the Energy Star label represents approximately the top 25 percent most efficient models within a given product class. Does your company view the specification levels as too stringent, about right, or not stringent enough?

Too stringent	4
About right	13
Not stringent enough	3
Don't know	3

For products that are “longer-lived,”—that is, products that have a longer life, such as refrigerators—the agreement states that specifications will be reviewed at least once every 3 years, or when market share for Energy Star-labeled products reaches 35 percent. For other categories with rapidly evolving products, the agreement calls for reviewing about every 2 years.

11. In general, are these criteria adequate to keep Energy Star specification up to date?

Yes	18
No	3
Don't know	2

What criteria would you propose?

12. The agreement also includes a proposal to add a new “top tier” or “most efficient” program that will identify the most efficient products within a given category (approximately the top 5 percent).

Would your company say that this was a positive step or a negative step?

Positive	8
Neither positive nor negative	3
Negative	11
Don't know	1

13. Have you submitted a product for certification to the Energy Star program since the new third-party certification requirement became effective on January 1, 2011?

Yes	9
No	14 (Skip to Question 16)
Don't know	0 (Skip to Question 16)

14. Did your company use a third-party laboratory to conduct the certification testing?

Yes	9
No	0
Don't know	0

15. Did your company have difficulty finding a third-party laboratory to perform the certification testing?

Yes	1
No	8
Don't know	0

Appendix II: Program Partners' Interview Responses

16. In your company's opinion, how does third-party certification testing of Energy Star products compare with the previous self-certification process in the following categories?

	Greatly increases	Somewhat increases	Neither increases nor decreases	Somewhat Decreases	Greatly decreases	No comment
Cost to obtain the label	11	10	2	0	0	0
Time to qualify products and get approval to carry the label	7	6	7	0	0	3

17. Have any of your company's Energy Star-labeled products been subject to Energy Star "off-the-shelf" verification testing or EPA's or DOE's enforcement actions?

Yes	7
No	16
Don't know	0

If yes, please explain the results:

18. Are you familiar with EPA's procedure for delisting a labeled product?

Yes	8
No	15 (Skip to Question 19)
Don't know	0 (Skip to Question 19)

Is the process clear?

Yes	6
No	0
Don't know	2

Is it fair?

Yes	6
No	0
Don't know	2

19. In your company's view, are the program's enforcement mechanisms adequate to ensure labeled products comply with program requirements and meet performance criteria?

Yes	12
Yes and no	1
No	3
Don't know	7

20. Did your company consider, or is it considering, taking any of the following actions as a result of the changes to the Energy Star program being implemented under the MOU?

Discontinue/withdrawal from the program	2
Continue to participate, but reduce the number of qualified products	8
Continue to participate with no change to the number of qualified products	9
Continue to participate and increase the number of qualified products	4
Consider any other actions	0

21. Has your company sought out alternative energy efficiency labels other than Energy Star?

Yes	8
No	15
Don't know	0

Appendix III: Comments from the Environmental Protection Agency



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

OFFICE OF
AIR AND RADIATION

Mr. Frank Rusco
Director, Natural Resources and Environment
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Rusco:

On behalf of the U.S. Environmental Protection Agency (EPA), I appreciate the opportunity to provide a response to the Government Accountability Office's (GAO) draft report on ongoing changes to the ENERGY STAR Program.

As the report reflects, the ENERGY STAR program has made notable progress implementing changes to ensure the ENERGY STAR label remains a credible designator of energy efficient, environmentally friendly products in the market.

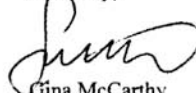
- In just over nine months, EPA developed and instituted a third-party certification program applicable across all 60 product categories, specifying conditions and criteria for participating accreditation bodies (ABs), certification bodies (CBs) and test laboratories. To date, 27 ABs, 20 CBs and more than 350 labs are participating in this program. Since January 1, 2011, more than 10,000 products have been certified.
- EPA and DOE have dramatically expanded verification testing of products, beginning with a 2010 DOE pilot program that focused on categories eligible for state rebates under the American Recovery and Reinvestment Act of 2009. Requirements for on-going, third-party verification of a percentage of all ENERGY STAR qualified product categories are in effect and test programs are currently ramping up.
- Wide ranging product performance updates are underway. Twenty-five ENERGY STAR product specifications either have been or are being updated in 2011. A schedule has been established to review and update, as necessary, the performance specifications for all ENERGY STAR product categories by 2013.
- A pilot program was researched, developed and launched, leveraging the ENERGY STAR platform to drive the most energy efficient products into the market more quickly. So far, 87 product models in 5 categories have been recognized as ENERGY STAR's Most Efficient.

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Like many of the program partners GAO interviewed, we understand that the ENERGY STAR label is an extremely valuable asset, built through twenty years of public and private investment. Significant opportunity remains to leverage that investment and extend the ENERGY STAR program's market presence as a champion for American consumers, providing them broader access to high-performing products that save energy and help protect the environment. As demonstrated by the efforts of the past year, EPA remains committed to continuously improving the program as the opportunity or need arises. As well, EPA cannot overstate its appreciation for the important role program participants and stakeholders play in making the ENERGY STAR program a success. Close attention will continue to be paid to ensuring transparency in the program's operation and careful consideration of stakeholder input and interests.

Thank you for your interest in the continued success of the ENERGY STAR program.

Sincerely,



Gina McCarthy
Assistant Administrator

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

Franklin Rusco, (202) 512-3841 or ruscof@gao.gov

Staff Acknowledgments

In addition to the individual named above, Jon Ludwigson, Assistant Director; Mark Braza; Heather Dowey; Paige M. Gilbreath; Michael Meleady; Amanda Miller; Alison D. O'Neill; Barbara R. Timmerman; and James W. Turkett made key contributions to this report.

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