

GAO

Report to the Chairman, Committee on
Energy and Natural Resources, U.S.
Senate

September 2007

ENERGY EFFICIENCY

Opportunities Exist for Federal Agencies to Better Inform Household Consumers



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Abbreviations

AHAM	Association of Home Appliance Manufacturers
ASE	Alliance to Save Energy
CEA	Consumer Electronics Association
CEC	California Energy Commission
CEE	Consortium for Energy Efficiency
DOE	Department of Energy
DVD	digital video disc
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EPCA	Energy Policy and Conservation Act of 1975
FTC	Federal Trade Commission
GAO	Government Accountability Office
NASEO	National Association of State Energy Officials
NYSERDA	New York State Energy Research and Development Authority
VCR	video cassette recorder

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United States Government Accountability Office
Washington, DC 20548

September 26, 2007

The Honorable Jeff Bingaman
Chairman
Committee on Energy and Natural Resources
United States Senate

Dear Mr. Chairman:

Household energy use accounts for nearly one-fourth of all energy consumed in the United States, amounting to more than \$200 billion per year spent by consumers. Recent increases in energy prices have heightened consumers' interest in making their households more energy efficient. To this end, the federal government manages two key efforts—EnergyGuide and Energy Star—to inform consumers about the energy consumed by certain household products.

EnergyGuide is a mandatory labeling program created under the Energy Policy and Conservation Act of 1975 (EPCA)¹ and administered by the Federal Trade Commission (FTC) with assistance from the Department of Energy (DOE). It requires manufacturers to label and prominently display information about the energy consumption and annual energy costs of 11 categories of household products.² In recent years, manufacturers have used adhesive backed labels adhered to appliances and so-called “hang tags” loosely attached to the interior or exterior of appliances. In its August 2007 revisions to the rule, FTC, among other things, prohibited the use of hang tags on the exterior of appliances, but continues to allow them on the inside.³ The law requires retailers to provide this information in

¹Pub. L. No. 94-163 (1975).

²EPCA currently provides for 16 product categories, but allows FTC the discretion not to include the categories if including them would not (1) assist consumers, (2) be technically feasible, or (3) use a DOE test procedure. The EnergyGuide program currently includes 11 product categories: furnaces, room air conditioners, central air conditioners, heat pumps, clothes washers, dishwashers, refrigerators, freezers, light bulbs and fluorescent ballasts, household water heaters, and pool heaters.

³In the Energy Policy Act of 2005 (Pub. L. No. 109-58 § 137), Congress amended EPCA to require FTC to initiate a rulemaking to consider (1) the effectiveness of the EnergyGuide program and (2) changes to the label's format. FTC conducted a study that primarily focused on alternative EnergyGuide label designs, revised the format of the label, and finalized its revisions to the program's implementing regulation on August 29, 2007 (16 C.F.R. § 305).

catalogs offering products for sale. In 2000, FTC interpreted its authority over catalogs to encompass Web sites and required retailers to provide the same information on Web sites where consumers may purchase such products. The law prohibits retailers from removing labels placed by manufacturers or making them illegible. Also, EPCA requires DOE, in consultation with FTC, to study new product categories to determine whether they should be added to the EnergyGuide program and to report annually on the energy savings of the program.

Energy Star is a voluntary labeling program created in response to the Clean Air Act amendments of 1990⁴ and the Energy Policy Act of 1992⁵ and jointly administered by the Environmental Protection Agency (EPA) and DOE. In general, it is designed to identify models for 26 categories of household products that, without sacrificing performance, are the most energy efficient (the top 25 percent).⁶ Manufacturers are permitted to apply the Energy Star logo to products that the manufacturers identify are qualified, based on EPA or DOE criteria.

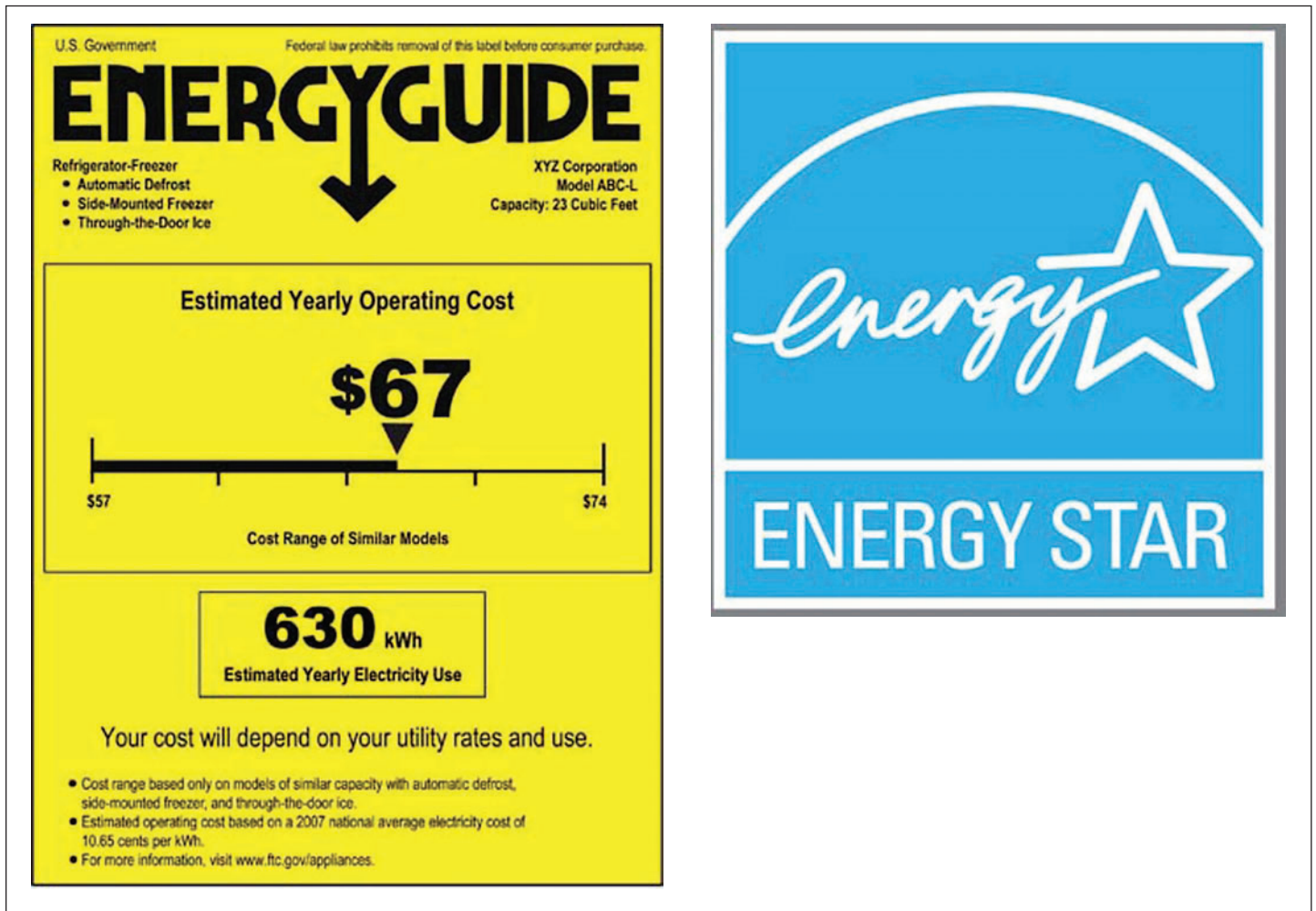
Figure 1 shows examples of the EnergyGuide label and the Energy Star logo that consumers see in retail stores and on Web sites.

⁴Pub. L. No. 101-549 (1990).

⁵Pub. L. No. 102-486 (1992).

⁶For the Energy Star program, we examined the 26 household product categories out of about 50 categories of commercial and household Energy Star products. Household products include clothes washers, dishwashers, refrigerators and freezers, dehumidifiers, room air cleaners, air source heat pumps, boilers, ventilating fans, ceiling fans, room air conditioners, central air conditioners, furnaces, geothermal heat pumps, programmable thermostats, compact fluorescent light bulbs, residential light fixtures, televisions, digital video disc (DVD) players, video cassette recorders (VCRs), television combination units, cordless phones, external power adapters, home audio products, computers, monitors, and printers. Our review included neither commercial Energy Star products, such as traffic lights, exit signs, copiers, and electrical transformers, nor Energy Star products that do not directly consume energy, such as insulation, windows, and doors.

Figure 1: EnergyGuide Label and Energy Star Logo



Sources: (left to right) FTC and EPA.

Standards for internal control in the federal government require federal agencies, including FTC, EPA, and DOE, to establish goals, measure performance, and report program costs and accomplishments in order to improve management and program effectiveness.⁷

⁷GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

In this context, you asked us to analyze the EnergyGuide and Energy Star programs to determine (1) how these programs have changed over time, (2) how federal agencies verify the accuracy of the energy consumption estimates for household products covered by these programs, (3) the actions federal agencies take to ensure that the EnergyGuide is available to consumers and that the Energy Star logo is not misused, and (4) how federal agencies measure the effectiveness and cost of these programs. We provided a briefing to your staff on the results of our work in June 2007. This report summarizes and formally transmits the information provided to your staff during that briefing. It incorporates formal comments and technical comments provided by agencies since the briefing.⁸ The attached slides provide more details on our findings and suggested actions.

To perform our review, we interviewed agency officials and staff, representatives from trade associations, major retailers, manufacturers, and experts; and reviewed literature, authorizing legislation and regulations,⁹ program materials, and program accountability documents. In addition, we inspected about 4,000 individual appliances displayed for sale in 30 retail stores across 5 cities and inspected about 3,600 Web sites to evaluate compliance with the EnergyGuide and Energy Star programs. We also examined Energy Information Administration estimates and projections of household energy consumption over time.

We performed our work from November 2006 through September 2007 according to generally accepted government auditing standards.

Summary

EnergyGuide

Overall, opportunities exist for the EnergyGuide program to improve how it provides information that could help consumers improve their households' energy efficiency and decrease energy consumption nationally:

⁸The briefing slides and draft report were updated to reflect the final amendments to the Appliance Labeling Rule (16 C.F.R. § 305) that FTC issued in August 2007.

⁹Specifically, we reviewed FTC's Appliance Labeling Rule and DOE's regulations for energy test procedures (10 C.F.R. § 430 Subpart B).

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- The EnergyGuide program has changed little over time, even though energy consumption patterns are changing substantially. For example, televisions,¹⁰ computers, and other product categories—which are expected to account for nearly half of household energy consumption by the year 2020—do not currently require an EnergyGuide label. Although FTC has pursued labeling for some products that are covered by law but are currently not subject to labeling, such as televisions, it does not have independent authority under EPCA to add some new products to the EnergyGuide program, such as computers and microwave ovens. FTC has added new categories only five times since the program was first implemented in 1980, according to a program official, and only when required by law. Although DOE, in consultation with FTC, is required to study new products to determine if any products should be added to EnergyGuide, DOE staff could not identify any instance of such a study, and told us that they have not completed one for at least 10 years.
 - FTC is not required to, and does not, independently verify energy consumption estimates provided by manufacturers. FTC staff told us they rely on manufacturers to verify competitors' energy consumption estimates and to report any problems to FTC. However, FTC only tracks some of the complaints it receives from manufacturers and therefore could not provide the exact number of complaints it receives about the EnergyGuide program. FTC staff told us it does not track complaints about the EnergyGuide program because it receives only a few each year and does not need a formal, systematic method for tracking these few or their resolution. According to FTC staff, there was little evidence to suspect a significant pattern of widespread misreporting of EnergyGuide information because of the small number of complaints they had received. In a related issue, energy efficiency experts and agency officials told us that computer controls in modern appliances can enable appliances to detect test conditions and temporarily reduce energy use, making it difficult to ensure that tests accurately measure energy consumption under normal operating conditions. According to one manufacturer and a consumer group, another manufacturer may have used computer controls to manipulate energy tests and to register lower-than-normal energy consumption. DOE reviewed the matter and found that the manufacturer had complied with the law, but DOE is considering changing its rules to prevent manufacturers from manipulating energy tests in the future.

¹⁰Some televisions may use an amount of electricity comparable to refrigerators, one of the most energy-intensive product categories.

Without such changes, FTC could face increasing difficulties in ensuring that EnergyGuide provides consumers with accurate estimates of appliances' energy efficiency.

- FTC does not know whether EnergyGuide is available to consumers because it has undertaken no significant efforts since 2001 to ensure EnergyGuide's availability to consumers in showrooms and on Web sites. GAO's inspections of major appliances found that EnergyGuide often is unavailable or difficult to use when consumers are purchasing products. GAO's inspections of appliances subject to EnergyGuide in retail showrooms found that 26 percent of these appliances lacked an EnergyGuide label, and another 24 percent of labels were no longer affixed in a prominent and easily accessible location. For example, many EnergyGuide labels were folded or crumpled, hidden by racks or bins, or placed upside down or backward inside appliances—this was the case for both adhesive backed and hang tags. Furthermore, we observed some changes in the retail environment that may prevent the EnergyGuide label from being easily accessible, such as the growing number of warehouse retailers that sell appliances such as water heaters still in the manufacturer's shipping boxes (with the EnergyGuide label not visible) as opposed to displaying unboxed appliances in a showroom. In addition, GAO examined about 3,600 products on Web sites of major appliance retailers and found that about 12 percent of these products lacked EnergyGuide information, and another 44 percent had links to EnergyGuide information that were difficult to find and use. According to FTC staff, although FTC has taken steps since 2001 to ensure that EnergyGuide information is available to consumers, there have been no enforcement actions for this program since 2001 because the agency has limited resources and has given the EnergyGuide program a lower priority than its other enforcement priorities. FTC staff told us they have adequate authority to ensure the EnergyGuide is available on Web sites; however, they told us they lack specific statutory authority to ensure that retailers display the EnergyGuide in showrooms. According to these staff, the current statute does not require retailers to ensure that the EnergyGuide label is available to consumers in showrooms; it only prohibits them from removing it. In addition, staff told us enforcement actions are difficult because FTC must prove that retailers removed the EnergyGuide labels.
- FTC does not measure the overall effectiveness or costs of the EnergyGuide program, contrary to federal standards for internal controls, and DOE does not measure the energy savings of the program, as required by law. Although FTC staff told us that a recent

survey measured effectiveness by asking consumers whether EnergyGuide was useful, FTC has not examined whether the program is achieving its goal of improving energy efficiency. FTC staff told us they did not examine the effectiveness and costs of the EnergyGuide program, and in particular did not measure the effectiveness of the program in saving energy because it would be difficult and would not be useful. DOE is required by EPCA to annually estimate the energy savings of the EnergyGuide program, but DOE staff were unable to provide us with any recent annual estimate.

Energy Star

Overall, Energy Star has been generally successful in identifying and highlighting the most energy efficient products, but faces some challenges:¹¹

- Energy Star has regularly expanded to include new products and keep pace with a changing market. However, 6 of 26 categories of household products currently qualify for Energy Star based on factors other than the estimated total energy consumption. For example, some products—including televisions, home audio products, DVD players, and stereos—qualify for Energy Star based on how much energy these devices consume when they are in standby mode, which may account for only a small percentage of total energy consumption. In the case of one Energy Star-qualified plasma television that we reviewed, standby power accounted for less than 10 percent of the annual estimated total energy consumption. However, the total energy consumed by the television amounted to more than the total annual energy consumption of some refrigerators. EPA officials told us televisions would qualify for Energy Star based on total energy consumption starting in 2008, and they are considering similar changes for some other product categories, unless it is appropriate to continue using standby power. In addition, for a few product categories, Energy Star no longer highlights only the most energy efficient models. In these cases, Energy Star-qualified products account for well over the program's general goal of identifying the top 25 percent of products available in a particular category. As a case in point, more than 70 percent of dishwashers sold

¹¹The EPA Inspector General recently described similar challenges in a report reviewing EPA's implementation of the Energy Star program. The report provided specific recommendations for strengthening the management controls that protect the integrity of the label for the Energy Star areas managed by EPA. See Environmental Protection Agency, Office of Inspector General, *Energy Star Program Can Strengthen Controls Protecting the Integrity of the Label* (Washington, D.C., Aug. 1, 2007).

from 2004 to 2006 qualified for the Energy Star before new qualifying criteria were implemented in 2007. According to one DOE official, this occurred because it took longer than expected to revise its criteria to identify only the most energy efficient models.

- DOE and EPA test some products to verify their energy consumption estimates, but generally rely on manufacturers to verify competitors' efficiency estimates. EPA and DOE officials told us that they did not believe further verification testing is needed because manufacturers would report discrepancies they find while testing competitors' products. Again, experts and agency officials told us that the computer controls in modern appliances make it difficult to accurately test normal energy consumption. In a related issue, DOE officials reiterated concerns expressed by some manufacturers that their competitors may have used computer controls to manipulate energy tests in the United States, and that this has been a widespread problem in another country. In its comments, DOE reported that it is considering changing its rules to prohibit manufacturers from manipulating energy tests in the future. Without such changes, DOE could face increasing difficulties in ensuring that Energy Star informs consumers about energy efficient products.
- EPA monitors stores, Web sites, and advertising to prevent misuse of the Energy Star label and follows up on problems. GAO inspections found few instances of the Energy Star mark being misused.
- DOE and EPA conduct efforts to measure the effectiveness of the Energy Star program which are useful but have limits. To measure effectiveness, DOE analyzes sales data to estimate energy savings, which were about \$7 billion per year.¹² Separately, EPA analyzes a consumer awareness survey of the Energy Star program. However, this survey does not assess how many additional energy-efficient products are purchased due to awareness of the Energy Star program. Agency officials recognized that this would be useful, but told us developing more extensive analysis of the program's impact would be difficult.

¹²EPA reported that in 2006, the entire Energy Star program, including products in the commercial, industrial, and residential sectors, saved consumers a total of about \$14 billion in energy costs in 2006 and cost about \$60 million. Looking only at products commonly used in households, such as appliances, computers, and consumer electronics, EPA and DOE officials estimate program savings of about \$7 billion for 2006 with program costs of about \$25 million.

Concluding Observations

EnergyGuide and Energy Star share the laudable goal of providing information to help consumers reduce their household energy consumption, thereby reducing energy consumption nationally. However, there are opportunities to improve the programs' long-term effectiveness that require the attention of Congress and the agencies.

The EnergyGuide program's familiar yellow label has aided consumers for over 25 years, but the lack of timely additions of new product categories has left consumers with little meaningful information about the energy efficiency of some of the most common and most energy-consuming household products. Moreover, because of changes in the current retail environment such as the growth of warehouse retailers and Web-based appliance sales, because statutory authority does not specifically require enforcement in some instances, and because FTC does not verify and enforce the display of the EnergyGuide label in retail stores, the effectiveness of the EnergyGuide program as it is currently implemented may be diminished. It is clear that consumers making purchasing decisions can only benefit from the EnergyGuide when it is available and easy to find and use. The August 2007 revisions to the labeling rule may address one source of missing labels—missing labels that were attached to the outside of the appliance—but do not appear focused on addressing the other problems we found with adhesive backed labels, hang tags initially attached on the inside, nor problems we found on Web sites. Overall, FTC's position is that it lacks resources and sufficient authority for more robust enforcement in retail stores. However, there may be opportunities for FTC to enhance enforcement within existing authority by coordinating its enforcement activities with existing Energy Star enforcement activities to reduce costs. In addition, FTC could improve the value of consumer and manufacturer complaints as a monitoring tool if it tracked complaints and their resolution. Moreover, without a meaningful assessment of the effectiveness and costs of the EnergyGuide program, FTC and Congress lack information that could help them empower consumers to improve household energy efficiency.

In contrast, Energy Star has regularly expanded to keep pace with the market and consumers generally equate the Energy Star logo with better energy efficiency than comparable products. However, EPA and DOE's efforts to raise consumers' awareness of the Energy Star program may be undermined and consumers may be confused if program officials continue to allow products to qualify for Energy Star based on factors other than total energy consumption, such as energy used in standby mode, which may account for only a small percentage of total energy consumption for many devices. Moreover, both programs may face emerging challenges as

computerized controls become more common in appliances and other products, making it more difficult to measure their true energy consumption.

Matter for Congressional Consideration

To ensure that consumers have consistent access to information about the energy efficiency of household products, Congress may wish to consider granting FTC with specific authority to require retailers to prominently display the EnergyGuide in retail showrooms.

Recommendations for Executive Action

To ensure that consumers have access to information about the energy efficiency of household products, we recommend that the Chairman of the Federal Trade Commission and the Secretary of Energy take the following four actions:

- To ensure that consumers have access to information about the energy efficiency of the types of household products that account for a significant and growing portion of household energy consumption, such as computers and televisions, we recommend that the Secretary of Energy, in consultation with FTC, regularly review product categories not currently covered to assess whether they should be included in the EnergyGuide program.
- To ensure that the EnergyGuide program is effectively achieving its goal of improving household energy efficiency by establishing goals, measuring performance, and reporting program costs and accomplishments, we recommend that the Chairman of the Federal Trade Commission, as required under federal standards for internal control in the federal government, regularly measure the cost and, to the extent practical, the effectiveness of the EnergyGuide program. To assist FTC in measuring effectiveness, we also recommend that the Secretary of Energy measure the energy savings of the EnergyGuide program, as required by EPCA.
- To ensure that consumers have consistent access to accurate information about the energy efficiency of household products, we recommend that the Chairman of the Federal Trade Commission monitor the availability of the EnergyGuide label and, within existing authority, enforce compliance through periodic inspections of retailers' showrooms and Web sites and by routinely and systematically tracking complaints, the issues they raise, and the manner in which these matters are resolved.

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- To ensure that EnergyGuide remains effective in a changing retail market, we recommend that the Chairman of the Federal Trade Commission clarify FTC's rules regarding the display of EnergyGuide information in the current retail environment, such as for warehouse retailers and Web-based product purchasing.

Agency Comments and Our Evaluation

We provided a draft of our report to DOE, EPA, and FTC for review and comment. We received written comments from all three agencies and they are presented in appendices III, IV, and V respectively.

DOE said it strongly concurred with the statements and recommendations regarding its responsibilities and historical actions for the EnergyGuide and Energy Star programs. DOE also noted a series of steps it is undertaking to address three specific areas of concern: updating the EnergyGuide program, addressing the possible use of computer controls to circumvent DOE test procedures, and updating Energy Star qualifying criteria and test procedures.

EPA's comments clarified issues related to verifying manufacturers' energy consumption estimates, updating Energy Star qualifying criteria, and explaining why some Energy Star products may qualify based on criteria other than total energy consumption. We incorporated these comments as appropriate.

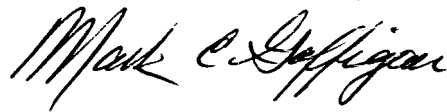
FTC noted in its comments that while the report contained helpful observations and suggestions, the Commission said that the report's conclusions were based on factual inaccuracies and outlined several issues of concern, such as GAO's characterization of FTC's efforts to measure costs and effectiveness and their efforts to enforce compliance. As previously discussed, we disagree with FTC's characterization of our report's conclusions and note that FTC did not point out any material factual inaccuracies in their written comment letter on our draft. FTC also provided technical changes which were incorporated. FTC's written comment letter and our detailed responses to issues raised by the Commission appear in appendix V. We continue to believe our report presents a fair presentation of the facts and issues associated with both programs and have not changed our recommendations.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 7 days from the report date. At that time, we will send copies to the Chairman of the

Federal Trade Commission, the Secretary of Energy, and the Administrator of the Environmental Protection Agency and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or gaffiganm@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 VI.

Sincerely yours,

A handwritten signature in black ink that reads "Mark E. Gaffigan". The signature is written in a cursive style with a large, stylized initial "M".

Mark Gaffigan
Acting Director, Natural Resources and Environment

Appendix I: Briefing to the Committee on Energy and Natural Resources, U.S. Senate, June 13, 2007

ENERGY EFFICIENCY: Opportunities Exist for Federal Agencies to Better Inform Household Consumers

Briefing to the Committee on Energy and Natural Resources
U.S. Senate
June 13, 2007

Note: Slides updated to reflect technical comments provided by FTC in August 2007.



Background

Energy Efficiency of Household Products Is Important

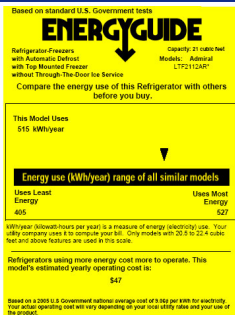
Household energy use accounts for nearly one-fourth of total U.S. energy consumption, with over \$200 billion per year spent

Recent increases in energy prices have increased consumers' interest in making their households more energy efficient

According to experts, lack of information for consumers is a significant barrier to improving household energy efficiency

Background (cont.)

Two Key Federal Efforts to Inform Consumers about Household Energy Efficiency



Mandatory labeling program estimates annual operating energy consumption and cost for 11 categories of household products

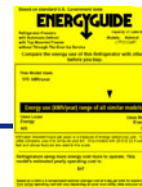
Implemented by

- Federal Trade Commission (FTC), has lead
- Department of Energy (DOE) provides support

Voluntary labeling program designed to identify most efficient products for 26 categories of household products

Implemented by

- Environmental Protection Agency (EPA)
- DOE



Background (cont.) EnergyGuide

Established by the Energy Policy and Conservation Act of 1975:

- Goal is “to provide for improved energy efficiency”
- Allows consumers to compare estimated energy consumption and cost

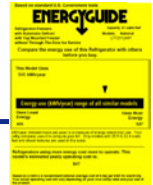
Mandatory labeling program

- Requires manufacturers to test and label certain product categories with estimated energy cost and consumption
- Requires retailers not to remove or render illegible EnergyGuide labels

Includes 11 product categories:

- Heating and cooling (furnaces,* room air conditioners,* central air conditioners and heat pumps*)
- Appliances (clothes washers,* dishwashers,* refrigerators,* freezers*)
- Lighting (light bulbs* and fluorescent ballasts)
- Household water heaters and pool heaters

* Some or all of category also included in Energy Star program.



Background (cont.)

Product Categories Covered and Not Covered by EnergyGuide

Product categories allowed by law and currently in EnergyGuide program	Product categories allowed by law, but not in program ^a	Examples of energy-using product categories not currently in program ^b
Furnaces	Clothes dryers	Computers
Room air conditioners	Direct heaters	Computer monitors
Central air conditioners and heat pumps	Kitchen ranges and ovens	Printers
Clothes washers	Televisions	VCRs and DVD players
Dishwashers	Wine refrigerators	Television set-top boxes
Refrigerators		Microwave ovens
Freezers		Well-water pumps
Light bulbs		Dehumidifiers
Fluorescent ballasts		Audio systems
Household water heaters		
Pool heaters		
Ceiling fans (2009)		

Notes:

^a FTC may exclude product categories if including them would not (1) assist consumers, (2) be technically feasible, or (3) use a DOE test procedure.

^b FTC could include these categories in the program if (1) DOE determined labeling would improve efficiency, (2) FTC determined labeling would assist consumers and that labeling is technically feasible, and (3) DOE established a test procedure.



Background (cont.) Energy Star

Jointly administered by EPA and DOE

- Intended to identify the most energy-efficient products
- According to EPA, identifies cost-effective products with no sacrifice in performance
- Agencies have targeted the top 25% of the models in the market

Voluntary program, considered successful

- Allows manufacturers of products meeting certain specifications to use the Energy Star logo to promote products
- Serves as focus of some federal, state, and local efficiency promotions
- Energy Star for household products estimated to save consumers about \$7 billion per year and costs about \$25 million per year, according to EPA and DOE
- Energy Star label recognized by more than 25 other countries

Includes 26 categories of household products

- Appliances (clothes washers,* dehumidifiers, dishwashers,* refrigerators and freezers,* room air cleaners)
- Heating and cooling (air source heat pumps,* boilers,* ceiling fans, central air conditioners,* furnaces,* geothermal heat pumps,* programmable thermostats, ventilating fans, room air conditioners*)
- Lighting (compact fluorescent light bulbs* and residential light fixtures)
- Home electronics (televisions, DVD players, VCRs, TV combination units, cordless phones, external power adapters, home audio, computers, monitors, printers)

* Some or all of category also included in EnergyGuide program, which will expand to include ceiling fans on January 1, 2009.

Objectives

1. How have the EnergyGuide and Energy Star programs changed over time?
 2. How do federal agencies verify the accuracy of the energy consumption estimates for household products in these programs?
 3. What actions do federal agencies take to ensure that the EnergyGuide is available to consumers and that the Energy Star label is not misused?
 4. How do federal agencies measure the effectiveness of these programs?
-

Scope and Methodology

Relied on Review of Key Documents, GAO Site Inspections, Data Analysis, Interviews

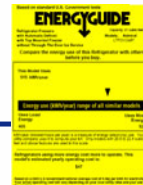
Scope focused on EnergyGuide and Energy Star

- Energy-consuming products only (no insulation, windows, doors, etc.)

Methodology

- Reviewed literature, including authorizing legislation, program materials, and accountability documents
- Examined estimates and projections of household energy use and product consumption
- Interviewed agency officials and staff, industry and trade association representatives, major retailers, manufacturers, and experts
- Using a nongeneralizable sample, GAO inspected about 4,000 appliances in 30 retail stores in 5 cities and 3,600 appliances on retail Web sites

Work completed from November 2006 to September 2007
according to generally accepted government auditing
standards



Results in Brief

EnergyGuide May Not Be as Effective as It Could Be in Informing Consumers about Household Energy Use

EnergyGuide has rarely changed to include new product categories comprising a growing share of household energy consumption

FTC is not required to, and does not, independently verify manufacturers' energy consumption estimates

FTC does not know whether EnergyGuide is available to consumers

- GAO inspections found EnergyGuide often not available or accessible at retail Web sites and in retail stores
- FTC does little to ensure the EnergyGuide is available for consumers

FTC and DOE do not measure the overall cost and effectiveness of the EnergyGuide program



Results in Brief

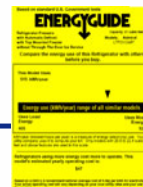
Energy Star Has Been Generally Successful at Highlighting Energy-Efficient Products

Energy Star has expanded to include 26 household product categories, but in some cases qualification for inclusion in the program is not based on total energy consumption

DOE and EPA test some products, but agencies generally rely on manufacturers to verify competitors' efficiency estimates

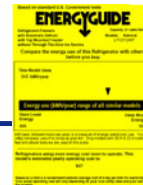
Energy Star generally used in compliance with rules; GAO found few instances where the Energy Star was misused

DOE and EPA conduct efforts to measure the effectiveness of the Energy Star program which are useful but have limits



Matter for Congressional Consideration Regarding EnergyGuide

Congress may wish to consider granting FTC with specific authority to require retailers to prominently display the EnergyGuide label in retail showrooms



Recommendations for Executive Action Regarding EnergyGuide

1. DOE in consultation with FTC should regularly review product categories not currently covered to determine whether to include in EnergyGuide program
2. FTC and DOE should measure the cost and, to the extent practical, the effectiveness of the EnergyGuide program
3. FTC should monitor the availability of the EnergyGuide label and within its existing authority, enforce compliance with display rules through periodic inspections of retailers' showrooms and Web sites and by routinely tracking complaints, issues raised, and their resolution
4. FTC should clarify its rules regarding the display of EnergyGuide information in the current retail environment

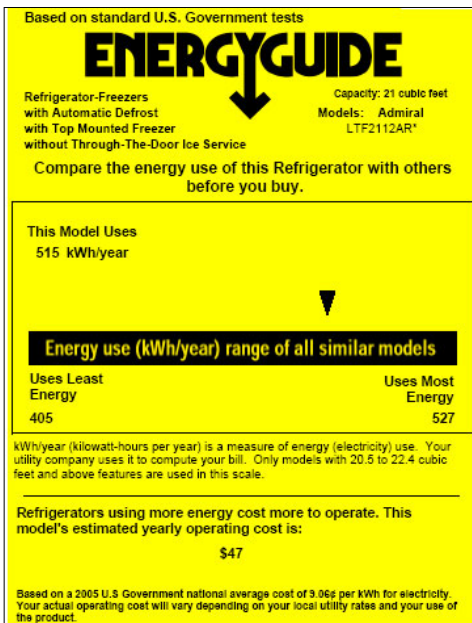
Note: FTC staff told us they believe that its rules were sufficiently clarified in its August 2007 revision of the Appliance Labeling Rule.



Shared Observations on EnergyGuide and Energy Star

1. Energy Star credibility may be damaged and consumers may be confused unless products qualify for Energy Star based on total, normal, annual energy consumption – rather than standby power
 2. The use of devices, including computer controls in appliances and other products, make it more difficult to measure true energy consumption and may require additional oversight to ensure that energy test results reflect normal energy consumption
-

Analysis of the EnergyGuide Program



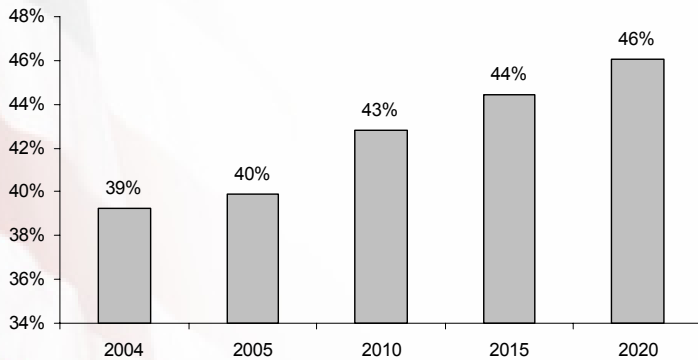
Note: This image represents the EnergyGuide label as it appeared at the time of our briefing on June 13, 2007.



EnergyGuide

EnergyGuide Has Rarely Changed to Include New Categories Comprising a Growing Share of Household Energy Consumption

**Estimated and Projected Share of Total Household
 Energy Consumption Not Covered by Energy Guide,
 2004-2020**



Source: GAO analysis of EIA, 2007
 Annual Energy Outlook data

Law requires DOE, in consultation with
 FTC, to review whether to add new
 product categories to EnergyGuide

New categories only rarely added

- Since 1980, only 5 new categories have been added by law
- DOE and FTC have not conducted any review of potential new categories for inclusion in EnergyGuide for at least 10 years
- FTC recognizes need to add televisions, but requires DOE action

EnergyGuide does not cover key product
 categories expected to account for nearly
 half of household energy consumption

- Computers
- Televisions and video displays
- Others



EnergyGuide

Energy Cost and Consumption of Products for which EnergyGuide Is and Is Not Required



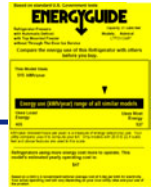
58-inch plasma television

- \$143/year estimated cost
- 1,379 kWh/year
- No EnergyGuide required



25 cubic foot refrigerator

- \$52/year estimated cost
- 579 kWh/year
- EnergyGuide required



EnergyGuide

Comparison Between Products for which EnergyGuide Is and Is Not Required

According to FTC, the EnergyGuide program **does not include beverage refrigerators** because current DOE test procedures are not appropriate for use



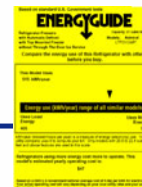
Standard refrigerator, about 6 ft. by 3 ft.

EnergyGuide required



Wine refrigerator, about 6 ft. by 2 ft.

No EnergyGuide required



EnergyGuide

FTC Is Not Required to, and Does Not, Independently Verify Manufacturers' Energy Consumption Estimates

Law requires FTC to ensure that manufacturers disclose energy efficiency information provided for use on the EnergyGuide, but does not require FTC to verify manufacturers' estimates

- FTC has sole legal authority to require manufacturers, at their expense, to provide covered products for testing by FTC

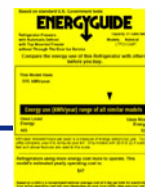
Manufacturers provide EnergyGuide energy consumption estimates

FTC does not independently verify manufacturers' estimates

- According to FTC staff, they lack expertise to verify manufacturers' estimates

FTC relies on manufacturers to verify competitors' estimates and report discrepancies, but does not track complaints

- According to FTC staff, there is little evidence suggesting a significant pattern of widespread misreporting of EnergyGuide information



EnergyGuide

FTC Does Not Know Whether EnergyGuide Is Available to Consumers

Law requires that energy information be available to consumers

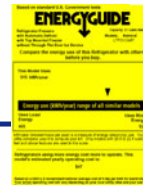
- Manufacturers are required to post information on appliances
- Retailers may not remove or render illegible EnergyGuide labels

GAO found substantial noncompliance in our inspections

- Half of appliances inspected in retail showrooms had EnergyGuide labels that were missing or difficult for consumers to access
- In about 12% of the products on four retailers' Web sites that GAO examined, EnergyGuide information was missing; another 44% were difficult to find

FTC has done little to verify compliance for displaying EnergyGuide

- FTC staff told us that it lacks specific authority, and has limited resources and multiple enforcement priorities
- FTC staff told us that it has received few recorded complaints of problems
- Undertaken only two significant formal efforts in 25 years and none since 2001
- FTC has relied on manufacturers to “self-police” the industry and report complaints regarding compliance issues, but does not track all complaints



EnergyGuide

FTC Noted Rules on Display of EnergyGuide Are Difficult to Enforce

FTC has limited resources and multiple priorities

- About 1,100 staff
- Responsible for numerous consumer protection statutes
- FTC noted that its other priorities sometimes take precedence

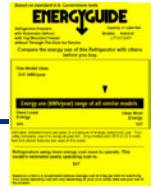
Few reports of complaints or problems

- FTC staff told us that its limited database had only a few complaints related to EnergyGuide
- Acknowledged not all complaints are entered into database

Retailers may not be responsible for EnergyGuide problems

- In the case of showrooms, store guests (including children) can remove guides from appliances
- EnergyGuide regulation is limited regarding retailer responsibilities
 - Retailers are prohibited from removing the EnergyGuide label or making it illegible
- According to FTC staff, law does not specifically allow them to hold retailers responsible for displaying EnergyGuide
- EnergyGuide can be difficult to replace

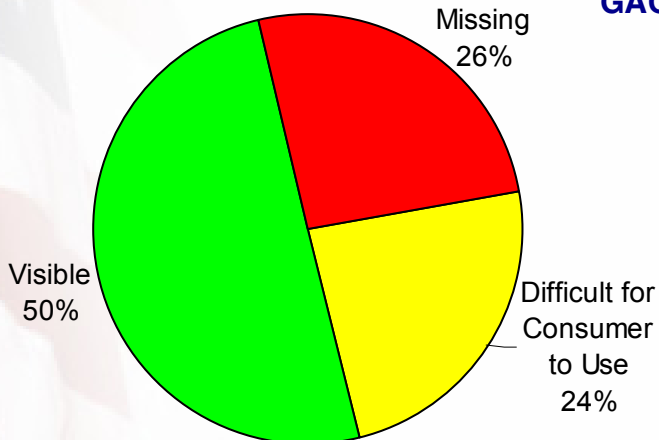
FTC has committed limited resources to formal enforcement



EnergyGuide

More than Half of Appliances Inspected in Retail Stores Had EnergyGuides that Were Difficult for Consumers to Use

Accessibility of Energy Guide for Inspected Appliances



Source: GAO analysis of inspection data

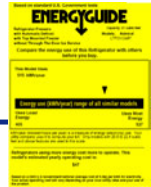
GAO inspected

- More than 4,000 household appliances in over 30 showrooms in 5 major metropolitan areas
- Reviewed Web sites of 4 major retailers

GAO found

- Some in stores and on Web prominent, easy to locate
- For retail showrooms, half of EnergyGuide labels were missing or difficult to use
 - Many missing (26%)
 - Inside box for water heaters
 - Some potentially moved
 - Some poorly placed, hard to use
- For retail Web sites, over half had missing or hard-to-find EnergyGuide information
 - About 12% of information missing, another 44% were difficult to find
 - Web sales large and growing

Note: GAO inspections used a nongeneralizable sample of stores and Web sites.



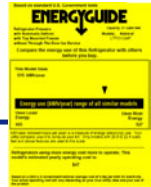
GAO Inspections

Regulations Define Requirements for EnergyGuide Placement

FTC Appliance Labeling Rule (16 C.F.R. § 305.11)

- Placement. Manufacturers shall affix a label to the exterior surface on covered products in such a position that it can easily be read while standing in front of the product as it is displayed for sale. The label should be generally located on the upper-right-front corner of the product, except that for low-standing products or products with configurations that make application in that location impractical, some other prominent location may be used.
- Use of hang tags. Information prescribed above for labels may be displayed in the form of a hang tag, which may be used in place of an affixed label. If a hang tag is used, it shall be affixed in such a position that it will be prominent to a consumer examining the product.

Note: This language represents the Appliance Labeling Rule as it was stated during our briefing in June 2007. In its August 2007 final rule, FTC clarified placement and use of adhesive labels and hang tags, prohibiting the use of hang tags on the outside of appliances. FTC noted in its comments that it believes that the elimination of hang tags outside of appliances will address missing labels.



GAO Inspections

Some Appliances with EnergyGuide Labels Affixed as Required

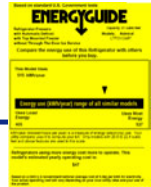


Source: GAO photo of appliance in retail showroom

Some EnergyGuide labels affixed and easily visible to consumers



Source: GAO photo of appliances in retail showroom



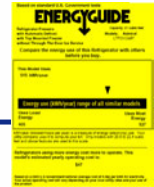
GAO Inspections

Many EnergyGuide Labels Were Hard to Use, Water Heaters Were Inside Boxes



Source: GAO photo of appliances in retail showroom

Many water heaters were sold in their boxes by warehouse-style retailers, making it impossible to see the EnergyGuide attached to the water heater inside



GAO Inspections

Many Labels Were Hard to Use, No Longer Affixed



Source: GAO photo of appliance in retail showroom

Many labels were crumpled, folded, or otherwise hard to use



Source: GAO photo of appliance in retail showroom

Many labels were facing backward or upside down, and were in tubs, racks, bins



GAO Inspections

Labels May Have Been Moved and Placed under the Lid



Source: GAO photo of appliance in retail showroom

This model appears as it would when the manufacturer packaged it – the label is in upper right-hand corner and easily visible

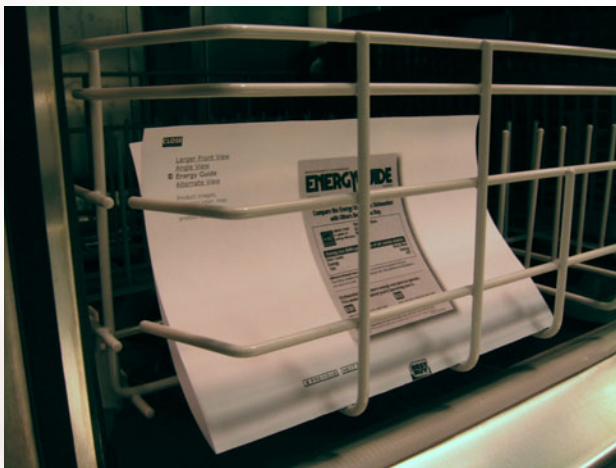
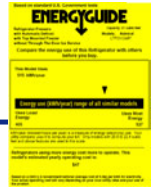


Source: GAO photo of appliance in retail showroom

This is the same model as it appears on the showroom floor – it appears that the label has been removed and placed under the lid

GAO Inspections

Some Retailers Photocopied Missing EnergyGuides

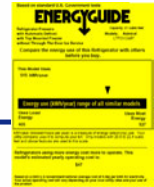


Source: GAO photo of appliance in retail showroom



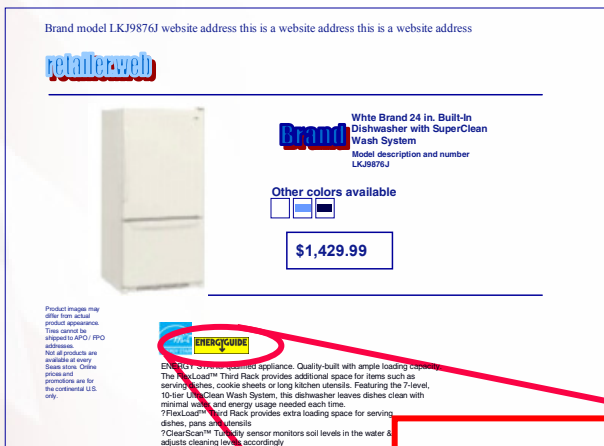
Source: GAO photo of appliance in retail showroom

Some retailers reprint EnergyGuide labels from the Web or other sources



GAO Inspections

EnergyGuide Information Easier to Find on Some Retailers' Web Sites



Use of EnergyGuide graphic in prominent location next to Energy Star symbol, and product, makes it easy to find EnergyGuide information on this Web site

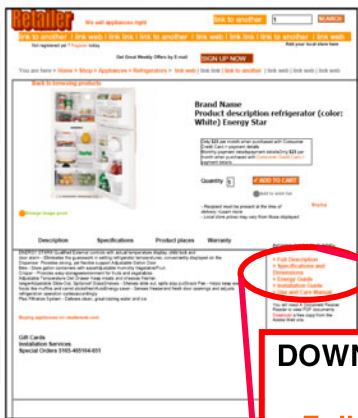
Source: GAO representation of retailer Web site





GAO Inspections

EnergyGuide Information Harder to Find on about 40% of Inspected Retailers' Web Sites



Source: GAO representation of retailer Web site

DOWNLOADABLE PDFs

- > Full Description
- > Specifications and Dimensions
- > Energy Guide
- > Installation Guide
- > Use and Care Manual



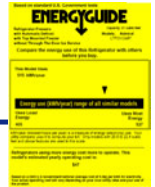
Source: GAO representation of retailer Web site

Manufacturer's Warranty (Labor):

- View the product Energy Guide (pdf)
- View the product Measurement Guide (pdf)

GAO Inspections

EnergyGuide Information Missing from about 10% of Inspected Retailer Web Sites



Brand Name
Product description refrigerator (color: White) Energy Star

Only \$22 per month when purchased with Consumer Credit Card & payment details.
Monthly payment details payment details Only \$22 per month when purchased with Consumer Credit Card & payment details.

Quantity 1 **ADD TO CART**
Add to wish list

DOWNLOADABLE PDFs
> Full Description ?

SPECIAL FINANCING OFFER
CARD

Item # 2357J Model: GSS1234
\$ 1200.50

Product Availability: Because product availability varies by area, please enter your local zip code to see item availability in your area.

Zip Code **Button**

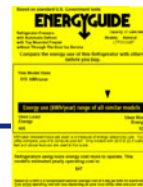
Already have an account with? Log in

DOWNLOADABLE PDFs
> Full Description ?

Retail credit services
Finance your ideas for annual fees. Low monthly payments.
Learn more apply now

Source: GAO representation of retailer Web site

Source: GAO representation of retailer Web site



EnergyGuide

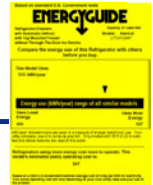
FTC Does Not Measure the Overall Cost and Effectiveness of the EnergyGuide Program

Federal standards for internal controls require agencies to measure programs' progress, costs, and effectiveness

- 2005 law directed FTC to evaluate the effectiveness of the EnergyGuide label, including consideration of alternate label designs
- Standards for internal control in the federal government require FTC to measure the cost and effectiveness of the EnergyGuide program
- EPCA requires DOE to annually assess the progress and energy savings of the EnergyGuide program

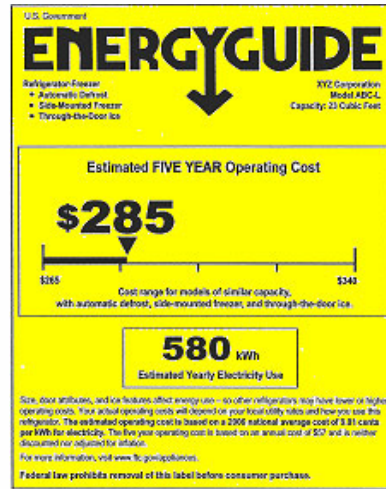
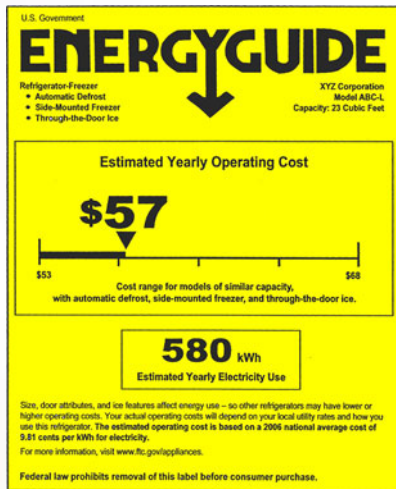
FTC has undertaken only a limited effort to examine the effectiveness of the EnergyGuide program

- FTC staff reported that measuring effectiveness is quantitatively difficult and not useful
- FTC has not assessed whether EnergyGuide is achieving the goal of improving energy efficiency as described in EPCA
- FTC does not track expenditures or resources used by the program
- FTC recently conducted consumer survey
 - Survey focused primarily on consumer recognition and understanding of the EnergyGuide label and consideration of alternative label designs
 - FTC did not examine whether program improves energy efficiency



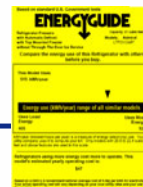
EnergyGuide

FTC Studied the Effectiveness of the EnergyGuide Label Design and Proposed New Designs



- Based on a study of consumers, FTC proposed a new EnergyGuide label displaying annual costs, and an alternative label that displays five-year costs
- FTC finalized its rule in August 2007, with the amendments effective February 2008

Note: At the time of our briefing on June 13, 2007, FTC had not finalized its changes to the EnergyGuide label. FTC finalized its changes in August 2007.



Matter for Congressional Consideration

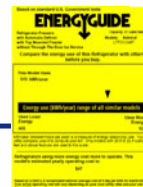
Congress May Wish to Consider Granting FTC Specific Authority to Ensure that EnergyGuide Is Available to Consumers

FTC may not have sufficient authority over retailers

- Law requires manufacturers to affix, and retailers not to remove, the EnergyGuide label
- FTC staff said they lack statutory authority to pursue legal action against retailers for missing EnergyGuide labels
- FTC will not generally pursue enforcement action concerning missing labels, because it often is very difficult to prove the retailer, rather than a consumer, has removed the label
- As a result, some consumers may lack access to information about energy efficiency and may purchase less efficient household products than they would otherwise have chosen

Matter for Congressional Consideration

- Congress may wish to provide FTC specific authority to require retailers to prominently display EnergyGuide labels in retail showrooms
-



Recommendation

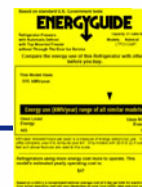
DOE and FTC Should Regularly Review Product Categories to Determine Whether to Include Them in EnergyGuide Program

A growing share of household energy use is not covered by EnergyGuide

- Law requires DOE, in consultation with FTC, to review whether new product categories should be included in the EnergyGuide program
- DOE and FTC have not conducted any review of potential new product categories for inclusion in EnergyGuide for at least 10 years, and could not tell us whether a review had ever been conducted
- FTC has only added new product categories when required by law, partly because it said that it lacks independent authority for some products
- As a result, the EnergyGuide program does not include some product categories responsible for significant, growing household energy use such as televisions and computers

Recommendation

DOE, in consultation with FTC, should regularly review products not currently covered (e.g., televisions, computers) to assess whether they should be included in the EnergyGuide program



Recommendation

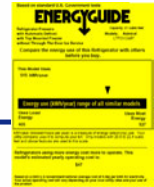
FTC and DOE Should Measure the Cost and Effectiveness of the EnergyGuide Program

FTC and DOE do not measure the costs and effectiveness of the EnergyGuide program

- Federal standards for internal control requires that agencies, including FTC and DOE, regularly assess how effective their programs are at achieving their objectives
- DOE is required to annually assess the progress and energy savings of the EnergyGuide program
- FTC never comprehensively assessed the costs and effectiveness of EnergyGuide program in improving energy efficiency, and has undertaken only a limited effort to examine the effectiveness of the EnergyGuide program
- FTC reported that tracking effectiveness of educational programs is difficult
- As a result, FTC and DOE do not know how much the program costs to administer or how effective the program is in achieving its goals

Recommendation

FTC and DOE should regularly measure the cost, and to the extent practical, the effectiveness of the EnergyGuide program



Recommendation

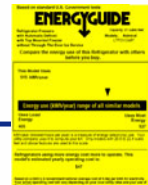
FTC Should Ensure that EnergyGuide Is Available to Consumers

FTC has undertaken few efforts to enforce display of EnergyGuide

- Law requires manufacturers to affix, and retailers not to remove, the EnergyGuide label
- GAO inspections found about half of EnergyGuide labels in retail showrooms and on retail Web sites were missing or difficult to use
- FTC has undertaken few efforts to ensure EnergyGuide is available to consumers
- As a result, some consumers may lack access to information about energy efficiency and may purchase less efficient household products than they would otherwise have chosen

Recommendation

To better ensure that consumers have consistent access to information about the energy efficiency of household products, FTC should monitor availability of EnergyGuide and enforce compliance through periodic inspections and routine, systematic tracking of complaints, issues raised, and their resolution



Recommendation

FTC Should Clarify EnergyGuide Rules to Respond to Changing Retail Environment

FTC has undertaken few efforts to clarify rules regarding the display of EnergyGuide in response to changing retail environment

- FTC requires retailers to display EnergyGuide information on Web sites and manufacturers to label appliances
- GAO inspections found Energy Guides missing or difficult to find on more than half of appliances in retail stores and about 12% of Web sites lacked EnergyGuide labels while another 44% were difficult to find
- In some cases, warehouse retailers keep products in packages where EnergyGuide cannot be seen
- As a result, some consumers may lack access to information about energy efficiency and may purchase less efficient household products than they would otherwise have chosen

Recommendation

To ensure that EnergyGuide remains effective in a changing retail market, FTC should clarify its rules regarding the display of EnergyGuide information in the changing retail environment, such as for warehouse retailers and Web-based product purchasing

Analysis of Energy Star Program





Energy Star

Energy Star Expanded to Include 26 Categories, but Qualifies Some Products on Factors other than Total Energy Consumption

Energy Star has expanded in recent years

- Initially applied to only office equipment (computers, monitors, etc.)
- Has expanded to cover 26 household product categories, including many covered by EnergyGuide
- Energy Star has sought to lead by identifying and targeting areas for potential energy savings (e.g. standby power for televisions, etc.)

Energy Star qualifications not solely based on total energy consumption

- Energy Star qualification based on standby power for 6 of 26 product categories
- Televisions (Energy Star awarded based on standby power until 2008)

Energy Star has recently moved to make changes

- New qualifying criteria for televisions and computers
- Faces challenges in developing standardized testing procedures

Energy Star in a few cases does not highlight top 25% of models in market

- Dishwashers (over 70% qualified for Energy Star 2004-2006; updated January 2007)
- Televisions (65% qualified for Energy Star in 2005; however, update planned 2008)



Energy Star

DOE and EPA Test Some Products, but Agencies Generally Rely on Manufacturers to Verify Competitors' Efficiency Estimates

DOE and EPA are required to “preserve the integrity of the Energy Star label”

DOE and EPA generally rely on manufacturers to verify the accuracy of competitors' energy consumption estimates for products they manage

- EPA and DOE officials told us further verification testing was not needed because manufacturers would report discrepancies in competitors' products

DOE and EPA have limited testing/verification efforts

- DOE and EPA test products not covered by EnergyGuide (e.g., EPA tests dehumidifiers, DOE tests compact fluorescent bulbs)
- EPA does limited testing for some televisions and other electronics—but only in low power, standby, or sleep mode (current standard)
- Verification for products covered by EnergyGuide relies on other agencies' enforcement, however other agencies do not test products



Energy Star

Energy Star Generally Used in Compliance with Rules;
GAO Found Few Instances Where Energy Star Label Was Misused

Mislabeled is a violation of Energy Star's trademark, which can
be enforced through lawsuits

GAO inspections found few noteworthy instances where
retailers had misapplied Energy Star labels

- Two clothes washers removed from list of qualified Energy Star appliances were found labeled as Energy Star in showrooms
- One dryer labeled with Energy Star (dryers are not eligible)
- One manufacturer's sticker closely resembles Energy Star label

Energy Star program monitors stores and Web sites

- EPA monitors the Web, advertising, and retail stores, and uses "secret shoppers" to ensure that products are not mislabeled



GAO Inspections

Two Clothes Washers Removed from List of Qualified Energy Star Appliances Were Found Labeled as Energy Star in Showrooms



Source: GAO photo of appliance in retail showroom



Source: GAO photo of appliance in retail showroom



GAO Inspections

One Dryer Labeled with Energy Star Even Though Dryers Are Not Eligible

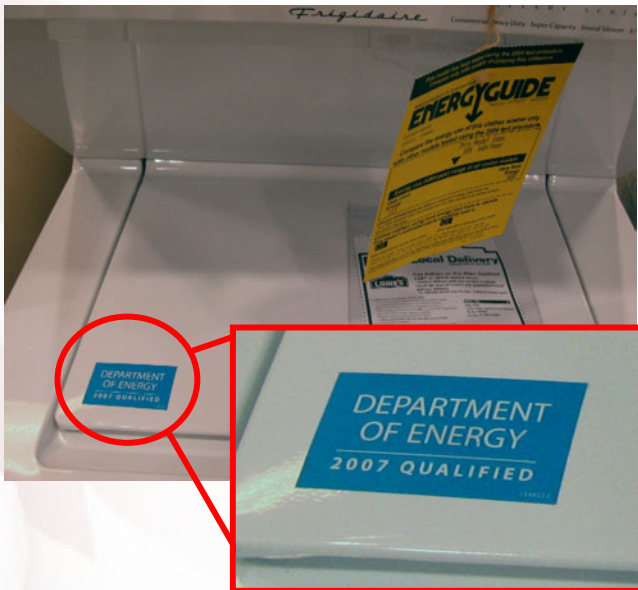


Source: GAO photo of appliance in retail showroom



GAO Inspections

One Manufacturer's Sticker Closely Resembles Energy Star Label



According to DOE officials, a manufacturer's label closely resembles the Energy Star label

DOE officials were not aware of this label until we notified them

Source: GAO photo of appliance in retail showroom



Energy Star

DOE and EPA Conduct Efforts to Measure the Effectiveness of the Energy Star Program which Are Useful but Have Limits

Federal standards for internal controls require agencies, including FTC, DOE, and EPA to measure programs' progress, costs, and effectiveness

DOE and EPA conduct efforts to measure the effectiveness of Energy Star which are useful but have limits

- EPA and DOE compare projected sales with actual sales data to estimate benefits of Energy Star
- EPA uses survey of consumers regarding their awareness of the Energy Star label
- Survey does not assess how many additional energy-efficient products are purchased due to awareness of Energy Star

Agency officials told us developing more extensive analysis of the impact of the program would be difficult



Observation on Energy Star

Energy Star Credibility May Be Damaged and Consumers Confused Unless Criteria Is Based on Total Energy Consumption

Energy Star is supposed to identify the most efficient products

Energy Star sometimes awarded for specific technology use not related to total energy consumption

- Televisions
 - Energy Star awarded based on standby power alone until 2008
 - Large plasma televisions advertise Energy Star, despite large energy consumption
- Dishwashers
 - Nearly all qualified for Energy Star in 2006; criteria updated January 2007

Program flexibility allows agencies to determine Energy Star criteria, including focus on standby power consumption rather than total energy consumption

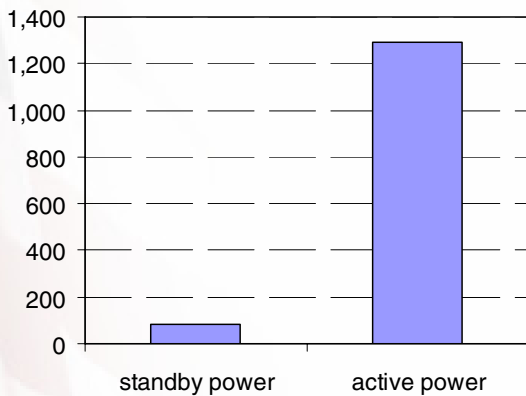
As a result, consumers buying Energy Star-rated products may end up consuming more energy, and this revelation could confuse consumers on the purpose of the program, damaging its credibility



Energy Star

Energy Star Sometimes Awarded for Specific Technology Use Not Related to Total Energy Consumption

Comparison of Standby and Active
Energy Used by one 58-inch
Energy Star Plasma Screen Television
(kWh/year)



Source: GAO analysis of data on energy consumption of Panasonic TH58PX600U provided by CNET, assumes 8 hours/day active power estimated by Nielsen.

Energy Star for televisions

- Awarded based on standby power alone until 2008
- Standby power consumption accounts for only a small share of total energy consumption

Manufacturers advertise Energy Star, despite large energy consumption

- Large plasma televisions can use more electricity than a refrigerator

Shared Observation on EnergyGuide and Energy Star

Based on standard U.S. Government tests

ENERGYGUIDE

Refrigerator-Freezers with Automatic Defrost with Top Mounted Freezer without Through-The-Door Ice Service

Capacity: 21 cubic feet
Models: Admiral LTZ2112AR*

Compare the energy use of this model to other models in the same category.

This Model Uses 515 kWh/year

Energy use (kWh/year) Uses Least Energy 405

kWh/year (kilowatt-hour) utility company uses 8 to 12 feet and above features

Refrigerators using model's estimated kWh/year

Based on a 2005 U.S. Government national average cost of 3.06¢ per kWh for electricity. Your actual operating cost will vary depending on your local utility rate and your use of the product.

ENERGY STAR



Shared Observation on EnergyGuide and Energy Star

Changes in Product Design Raises Potential for Efficiency Testing Manipulation and May Increase Importance of Verification

DOE required to develop standardized test procedures that reflect expected usage patterns that will be used by manufacturers to estimate energy consumption

Modern appliances can include sophisticated computer controls that can increase the performance and energy efficiency of appliances, but that also can detect known testing conditions

Problems have emerged

- Regulators in another country have found energy consumption estimates in test conditions varied significantly from actual usage
- Refrigerator manufacturer may have used computer controls to register low consumption
- DOE found that manufacturer complied with law, but is considering rulemaking to address the issue

As a result, energy consumption for some products using sophisticated controls may not reflect actual usage under all conditions



Shared Observation on EnergyGuide and Energy Star

Manufacturer May Have Used Computer Controls to Register Low Consumption; Complied with Law; DOE Considering Changes to Rules

One refrigerator registered low consumption for EnergyGuide and was awarded an Energy Star based on DOE test procedures

A competing manufacturer reported that the refrigerator's computer controls were set to reduce energy consumption during the test procedure, thereby circumventing the test

DOE found that the manufacturer had complied with the law

Energy consumption under test conditions may not reflect actual usage—actual energy consumption could be about 20% higher

DOE considering “anticircumvention” rulemaking for refrigeration, no timetable established



Appendix II: Scope and Methodology

To determine the extent to which EnergyGuide and Energy Star programs for household products have changed over time, we reviewed authorizing legislation¹ and regulations, including the Federal Trade Commission's (FTC) Appliance Labeling Rule² and other program materials documenting processes, guidance, and actions that agencies have taken to implement these programs. We also interviewed key federal agency officials and staff at the Department of Energy (DOE), Environmental Protection Agency (EPA) and FTC. In addition, we interviewed representatives of industry and trade associations, including the Association of Home Appliance Manufacturers (AHAM) and the Consumer Electronics Association (CEA); major manufacturers of household products and major retailers of household products and consumer electronics; energy efficiency experts identified on the basis of referral by key agency officials, staff, and other experts, including experts at a national laboratory; efficiency advocates, including the Consortium for Energy Efficiency (CEE) and the Alliance to Save Energy (ASE); consumer advocates, including Consumers Union; and the National Association of State Energy Officials (NASEO) and state energy offices in locations with significant outreach efforts, including the California Energy Commission (CEC) and the New York State Energy Research and Development Authority (NYSERDA). Further, we performed quantitative analysis of the Energy Information Administration's (EIA) Annual Energy Outlook 2007 of residential energy consumption projections to evaluate the share of total household energy consumption not covered by the EnergyGuide over time. EIA's consumption projections are not statements of what will happen but of what might happen, given the assumptions and methodologies used by EIA. As such, EIA's projected data reflect known technological and demographic trends and current laws and regulations, and generally do not reflect potential impacts of pending or proposed legislation, regulations, and standards, or of unknown technologies. The projected data presented in this report reflect projected energy consumption for the scenario EIA considers to be the most likely; other scenarios reflected similar results. In the past, EIA projections of energy consumption have been relatively close to realized outcomes; however, it cannot be predicted how the underlying factors of EIA's model will change in relation to one another or other currently unknown factors. We assessed the reliability of EIA projected data by performing manual testing of the data, reviewing related documentation,

¹Energy Policy Conservation Act (EPCA), Pub. L. No. 94-163 (1975); Energy Policy Act of 2005, Pub. L. No. 109-58 (2005).

²16 C.F.R. § 305.

and interviewing Census officials regarding the uses of the data and the data's internal controls. We found the data to be sufficiently reliable for the purpose of our analysis.

To determine how federal agencies verify the accuracy of energy consumption estimates in the EnergyGuide and Energy Star programs, we reviewed legislative and regulatory requirements for developing energy consumption estimates and agency procedures including DOE's test procedure for measuring energy consumption. We identified federal agencies' efforts to verify energy consumption estimates by reviewing agency documentation³ and interviewing key federal agency officials and staff at DOE, EPA, and FTC. We also interviewed major manufacturers of household products about their role in providing estimates and their efforts to verify competitors' estimates of energy consumption. We identified efforts taken by other agencies and organizations to test appliances for energy consumption by interviewing individuals identified on the basis of referral by key agency officials and experts, including experts at a national laboratory, Consumers Union, CEC, and NYSERDA. Finally, we evaluated the extent to which circumvention of rules for developing energy consumption estimates has been detected in the United States and abroad by interviewing experts and reviewing the literature.

To identify the actions DOE, EPA, and FTC take to ensure the EnergyGuide label is available to consumers and the Energy Star label is not misused, we reviewed legislative and regulatory requirements. We also reviewed program documentation on enforcement activities and interviewed key FTC staff about efforts taken to enforce compliance with the EnergyGuide program rules as well as DOE and EPA officials about efforts taken to ensure that the Energy Star label is not misused. We also examined the August 2007 revision of the Appliance Labeling Rule. In addition, we interviewed representatives of industry and trade associations, including AHAM and CEA, as well as major manufacturers of household products and major retailers of household products and consumer electronics. We interviewed energy efficiency experts identified on the basis of referral by key agency officials, staff, and other experts, including experts at a national laboratory; efficiency advocates, including CEE and ASE; consumer advocates, including Consumers Union; and

³We also reviewed a recently issued report by the EPA Inspector General reviewing EPA's implementation of the Energy Star program. See Environmental Protection Agency, *Energy Star Program Can Strengthen Controls Protecting the Integrity of the Label* (Washington, D.C., Aug. 2, 2007).

NASEO and state energy offices in locations with significant outreach efforts, including CEC and NYSERDA. To evaluate the extent of compliance with agency rules and guidance for displaying the EnergyGuide label on products, we visited five major metropolitan areas selected to increase geographic diversity and minimize travel costs. In these 5 metropolitan areas we conducted site visits of 30 retail stores, including national, regional, and local retailers of major appliances or consumer electronics. Within these stores, we inspected all major appliances available for sale in five categories of major household products required to carry the EnergyGuide label: refrigerators, freezers, clothes washers, dishwashers, and water heaters. Our inspections resulted in a nongeneralizable sample of 3,987 major household appliances on display for sale in showrooms.⁴ We determined whether labels for different products were difficult to use based on details about their placement and condition including whether labels were difficult to read because they were crumpled or folded, damaged, placed next to labels with differing data, or obscured by bins, shelves, racks or advertising, or other documents; placed upside down or backward inside appliances; or pasted to inside walls or surfaces that were difficult to access (such as clothes washer drums or the back or lower interior walls of dishwashers or refrigerators). Our results were generally similar for a variety of different metropolitan areas. In addition, to evaluate compliance with EnergyGuide display rules for products sold electronically on the Web, we inspected a nongeneralizable sample of 3,595 major household appliances for sale in 5 product categories (refrigerators, freezers, clothes washers, dishwashers, and water heaters) on the Web sites of 4 major retailers of household appliances and consumer electronics. To evaluate the extent of compliance with agency rules and guidance for displaying the Energy Star label, we examined a nongeneralizable sample of 220 Energy Star products during our site visits,⁵ such as major household appliances and consumer electronics. To determine the misuse of the Energy Star label, we compared the sample of products sold to Energy Star's 2007 list of qualified products (last updated April 2007).

To determine how federal agencies measure the effectiveness and cost of the EnergyGuide and Energy Star programs, GAO reviewed legislative and

⁴The results of the nongeneralizable sample are not intended to statistically estimate the number of labeled products in compliance for all products across the United States.

⁵In some cases, we inspected products bearing both the EnergyGuide and the Energy Star labels.

regulatory requirements for measuring program effectiveness in the Standards for Internal Controls in the Federal Government⁶ and EPCA. We reviewed DOE, EPA, and FTC program documentation, annual reports, and performance reports to better understand how these federal agencies measure the effectiveness of these programs. In addition, we interviewed federal officials and staff at DOE, EPA, and FTC about efforts they have taken to measure the performance of the Energy Star and EnergyGuide programs, including efforts to measure cost and effectiveness. We interviewed representatives of industry and trade associations, including AHAM and CEA, as well as representatives from major manufacturers and retailers of appliances and consumer electronics and experts to better understand their perspective on the effectiveness of federal efforts. We interviewed energy efficiency experts identified on the basis of referral by key agency officials, staff, and other experts, including experts at national laboratories; efficiency advocates, including CEE and ASE; consumer advocates, including Consumers Union; and NASEO and state energy offices in locations with significant outreach efforts, including CEC and NYSERDA.

We conducted our work from November 2006 through September 2007 according to generally accepted government auditing standards.

⁶GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999).

Appendix III: Comments from the Department of Energy



Department of Energy
Washington, DC 20585

September 10, 2007

Mr. Mark Gaffigan
Acting Director, Natural Resources and Environment
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Gaffigan:

Thank you for the opportunity to work with the U.S. Government Accountability Office (GAO) on the EnergyGuide and ENERGY STAR programs and to review the draft report titled, "Opportunities Exist for Federal Agencies to Better Inform Household Consumers." The Department of Energy was pleased to assist in providing your office with input and explanations on what we do to provide the American household consumer with accurate and up-to-date information on this important topic.

The Department, after reviewing the draft report, strongly concurs with the statements and recommendations regarding the Department's responsibilities and historical actions taken to meet these responsibilities. The report does an excellent job of documenting the potential and in some cases, real deficiencies in the implementation of the EnergyGuide and the ENERGY STAR program. We take these deficiencies very seriously. Over the past year we have taken several steps to identify and rectify these deficiencies. The GAO report has performed a great public service by explicating several areas of concern to the Department.

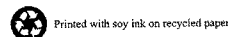
In particular, we are taking immediate steps to address three areas of concern for the Department and identified in the GAO report: Review and updating of the EnergyGuide; modernization and protection of test procedures; and modernization and protection of ENERGY STAR.

Review and updating of the EnergyGuide

The draft report recommends that DOE take the following actions:

[1] To ensure that consumers have access to information about the energy efficiency of the types of household products that account for a significant and growing portion of household energy consumption, such as computers and televisions, we recommend that the Secretary of Energy, in consultation with the Federal Trade Commission, regularly review product categories not currently covered to assess whether they should be included in the Energy Guide program.

[2] To assist FTC in measuring effectiveness, we also recommend that the Secretary of Energy measure the energy savings of the Energy Guide program, as required by EPCA.



The Department has begun work to determine whether any new products should be added to the program. As required by section 322(b)(2)(C) of the Energy Policy and Conservation Act, as amended (EPCA), the first step in the process is to conduct a rulemaking to define “household.” The next step is to determine whether any products meet the “average annual per-household use” threshold in section 322(b)(1) of EPCA. DOE will then confer with the Federal Trade Commission (FTC) to review product categories for possible inclusion in the EnergyGuide labeling program. At the same time, the Department will meet with FTC to develop plans for analyzing and evaluating the effectiveness of the program, including an assessment of energy savings accrued due to energy conservation standards, the EnergyGuide label and the ENERGY STAR label.

Modernization and protection of test procedures

The Department shares the GAO concern with respect to reports of certain products which include control features that manipulate tests to provide lower energy consumption than normal use. This is of great concern to DOE and, upon review, the Department has found that in certain instances, the test procedures allowed room for use of advanced technologies that were not contemplated when the test procedures were developed.

In order to reduce the potential for such manipulation in the future, we are undertaking the following actions:

- DOE is preparing a rulemaking to adopt provisions to limit manufacturer circumvention of DOE test procedures. These rules would, for example, specifically require manufacturers to have all energy consuming features in the “on” mode when testing the product per the DOE test procedure. This rulemaking has been referred to as the “anti-circumvention” rulemaking and is currently being reviewed by the Department’s Office of General Counsel.
- The Department has recently revised the criteria for qualifying refrigerators for the ENERGY STAR program to ensure manufacturers test their products with all energy consuming features in the “on” mode when testing the product per the DOE test procedure.

Modernization and protection of ENERGY STAR

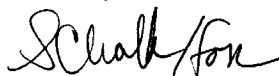
For some products, the ENERGY STAR program has been too dependent upon the DOE appliance test procedures and that DOE has not been able to update the test procedures in a timely fashion. Because technology has evolved faster than DOE can conduct rulemakings, the Department has found it can update its ENERGY STAR criteria in a more timely fashion and is doing so. For example, we recently modified the refrigerator ENERGY STAR criteria to deal with the new control features that would turn off certain energy consuming features in the test mode. Manufacturers have been introducing new products into the marketplace in response to a number of drivers, including energy standards, ENERGY STAR, rising energy prices, energy supply limits, advances in technology and a general increase in energy awareness. These new products must be addressed in an expeditious fashion and while DOE will continue the link between

addressed in an expeditious fashion and while DOE will continue the link between ENERGY STAR and the DOE test procedures, we find that adding additional requirements to the DOE test procedures, through the ENERGY STAR criteria, provides us with a mechanism to keep the test procedures relevant.

Finally, the report mentioned perceived slowness of the Department in revising its qualification requirements for dishwashers, thus allowing an abnormally large market share of dishwashers to be labeled as ENERGY STAR product. This reflects the success of ENERGY STAR program and the inter-dependency of ENERGY STAR and the DOE test procedure activities. Manufacturers adopted a new technology that was able to modify the wash cycle, depending on how dirty the dishes are. Once the DOE test procedure was amended, the ENERGY STAR criteria were revised.

Thank you for the opportunity to comment on the draft report. We look forward to working with GAO on improving the opportunities for the Federal Government to assist the American consumer in the purchase of energy efficient products. If you have further questions, please contact me at (202) 586-5523.

Sincerely,



David E. Rodgers
Deputy Assistant Secretary for Energy Efficiency
Office of Technology Development
Energy Efficiency and Renewable Energy

Appendix IV: Comments from the Environmental Protection Agency



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

July 7, 2011

OFFICE OF
AIR AND RADIATION

Mr. John B. Stephenson
Director, Natural Resources and Environment
U. S. Government Accountability Office
Washington, DC 20548

Dear Mr. Stephenson:

The US Environmental Protection Agency appreciates the opportunity to provide the following clarifications on GAO's draft report entitled: *Energy Efficiency: Opportunities Exist for Federal Agencies to Better Inform Household Consumers*.

Verification Testing (first complete bullet, page 6)

While the competitive nature of product manufacturers in the United States is an advantage in terms of compliance monitoring, EPA does not rely exclusively on manufacturers to report discrepancies in competitors' products. EPA expressly reserves the right to test any qualified product. The Agency instituted a verification testing program in 2002 to serve as a deterrent to non-compliance by raising the prospect that a manufacturer's products could be tested. This testing program has been operated as a screening tool with the presumption that testing would be expanded if systemic issues were revealed. In addition, EPA leverages a number of well-established, credible testing programs, including a verification testing program for residential lighting funded in part by regional energy efficiency programs -- the Program for the Evaluation and Analysis of Residential Lighting (PEARL). Through PEARL, we have been notified about and addressed a number of fixture models that failed to meet ENERGY STAR performance specifications. In addition, the third-party certification programs run by various trade associations, although voluntary, are generally comprehensive and broadly participated in. For example, all but one manufacturer of gas furnaces for the US market participates in the Gas Appliance Manufacturers Association's (GAMA's) certification program which has an established test cycle that tests all participating manufacturers' products within a three year period. Our reliance on these programs to ensure proper reporting of product performance is consistent with the federal government's reliance on them to ensure the credibility of the federal efficiency standards program.

ENERGY STAR Product Market Shares (top of page 6)

Internet Address (URL) • <http://www.epa.gov>
Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 30% Postconsumer)

The ENERGY STAR product labeling program was designed to ensure that key consumer preferences are met – economic savings, product performance and the reward of protecting the environment. In order to consistently deliver on these expectations, the ENERGY STAR program has six established principles that guide decisions in terms of whether and at what level to establish an ENERGY STAR specification and when to revise it.

- 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 time.
- 4) Energy efficiency can be achieved with several technology options, at least one of which is non-proprietary.
- 5) Product energy consumption and energy performance can be measured and verified with testing.
- 6) Labeling would effectively differentiate products and be visible for purchasers.

Each time an ENERGY STAR efficiency level is established, whether for the first time or as part of a revision, these principles are balanced to ensure that the specified level will deliver significant aggregate energy savings while differentiating products that are cost-effective to the consumer and do not compromise functionality or performance. In order to effectively differentiate products, the specified efficiency level must allow for a reasonable, nationally available selection of products from a range of manufacturers. In many circumstances, setting an ENERGY STAR efficiency level so that the top 25% of models in terms of efficiency can meet it, offers the desired amount of selection and availability while also promising significant energy savings, cost-effective options and no compromise in performance.

The ENERGY STAR product labeling program delivers energy savings and greenhouse gas reductions by facilitating the purchase of more efficient product alternatives. Accordingly, an increase in qualified product market share after an ENERGY STAR specification goes into effect is an important measure of program success. Further, the value of the program is not diminished when there is ultimately broad availability of qualified product in the market place. No matter what the market share of ENERGY STAR qualified products, a consumer who purchases a labeled product gets a product that will contribute to a cleaner environment and save them money without sacrifice in performance.

At the same time, when ENERGY STAR qualified products represent a high percentage of the market for a given product category, it suggests there may be an opportunity for additional savings. In general, once market share for a given product category exceeds 50%, that product category is identified for ongoing evaluation in terms of a possible revision. Whether and when a specification revision goes forward is determined by an assessment of market conditions against the key principles.

Specifications Not Solely Based on Total Energy Consumption (bottom of page 5)

EPA initially established ENERGY STAR performance specifications based on stand-by power for a number of products (such as TVs) because, at the time, usage patterns were such that overall energy use could be dramatically reduced through reductions in stand-by. As technologies and usage patterns change, EPA is moving forward to update specifications to better address overall efficiency through total energy consumption. However, for some product categories, such as audio equipment, addressing overall efficiency will continue to be effectively addressed through a stand-by specification.

Once again, thank you for the opportunity to review the draft report and provide comments.

Sincerely,



Robert J. Meyer
Principal Deputy Assistant Administrator

Appendix V: Comments from the Federal Trade Commission

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



THE CHAIRMAN

FEDERAL TRADE COMMISSION
WASHINGTON, D.C. 20580

September 10, 2007

Mark Gaffigan
Acting Director
Natural Resources and Environment
U.S. Government Accountability Office
Washington, D.C. 20548

Dear Mr. Gaffigan:

Thank you for the opportunity to comment on a draft of your report titled "*Energy Efficiency: Opportunities Exist for Federal Agencies to Better Inform Household Consumers*" (Report). We appreciate GAO staff's work in examining the Federal Trade Commission's implementation of the EnergyGuide labeling program. We understand that the agencies' staffs worked cooperatively throughout the Report's preparation and that the FTC staff provided extensive informal comments on the draft Report, some of which were incorporated. While GAO's Report contains helpful observations and suggestions, some of the Report's conclusions are based on factual inaccuracies. Below, we provide background on the Commission's EnergyGuide labeling program and then address the Report's principal conclusions.

I. Background on the FTC's EnergyGuide Labeling Program

As directed by the Energy Policy and Conservation Act (EPCA), the Commission issued the Appliance Labeling Rule (16 C.F.R. Part 305) in 1979. The Rule directs manufacturers to disclose energy information about major household appliances identified as covered products under EPCA. The EnergyGuide label serves two important purposes. First, the operating cost and energy consumption information on the label allows consumers to compare competing models. Second, the label provides useful information to consumers who are seeking to buy high-efficiency products that reduce energy use and thus help the environment. The combination of the FTC EnergyGuide label and the Energy Star program, run by the Department of Energy (DOE) and the Environmental Protection Agency (EPA), provides a robust system for making energy information available to consumers. The FTC label provides detailed operating cost and energy information about all covered products regardless of energy efficiency, while Energy Star provides a government endorsement designed to identify and promote high efficiency products.

Over the years, we have amended the Rule and made improvements to the EnergyGuide program, taken informal and formal actions to ensure compliance, provided regular guidance to industry members, distributed consumer education materials, posted national appliance energy

data on the Internet, and coordinated our efforts with other federal agencies. In addition, the Commission recently completed a two-year rulemaking to examine the effectiveness of the EnergyGuide labeling program. After several rounds of public comment, a public workshop, and a significant consumer research study, the Commission announced amendments to the Rule that include, among other things, a new label design that should significantly enhance the utility of the EnergyGuide program.

Despite this ongoing work, we recognize that challenges remain. As discussed below, the availability of the label on products in retail stores remains an issue of concern. We will continue to work with manufacturers and retailers to ensure that the label is available and visible to shoppers. Moreover, we recently simplified the required Internet disclosures and will monitor these disclosures to ensure that consumers are provided the information they need in a clear and conspicuous manner. Finally, we will continue our efforts to implement the Rule and address changing marketplace conditions in a way that is consistent with our authority under EPCA.

II. GAO's Report

We address some of the conclusions of GAO's Report below.

A. Availability of EnergyGuide Labels

GAO Comment: "FTC does not know whether the Energy Guide is available to consumers because FTC has undertaken no significant efforts since 2001 to ensure that the Energy Guide is available to consumers in showrooms and on Web sites."

FTC Response: We share GAO's concern about the availability of the label in showrooms and on the Internet.¹ As discussed below, we have focused on retail availability of the label in the past and explored label placement improvements in our recent rulemaking.

The maintenance of labels on appliances in showrooms is a difficult issue, but one that the agency has addressed. EPCA prohibits retailers from removing labels but contains no provision requiring them to affirmatively maintain labels on products. Because it is difficult to prove that missing labels in showrooms are the result of a retailer's violation instead of removal by a consumer, this issue raises law enforcement challenges. Nevertheless, in 2001, the FTC staff announced inspections of over 144,000 appliances in 144 showrooms. As a result of those inspections, FTC staff sent letters to 70 retailers informing them of their responsibilities. At the same time, the staff also announced that it sent similar letters to Internet sellers.

Although we have not conducted similar on-site inspections since 2001, we have taken steps to ensure that EnergyGuide information is available to consumers. In 2003, the FTC began posting energy data for covered appliances on its website. See www.ftc.gov/appliancedata. The

¹ GAO's study of appliances on showroom floors stated that some labels were missing or damaged. We do not have the details of GAO's study, and therefore, we cannot provide specific comments on its findings.

See comment 1.

site provides a list of each type of covered appliance by brand, as well as by energy efficiency. This ensures that energy data is available to consumers online in one location.

In 2005, the Commission initiated its rulemaking to examine the effectiveness of the EnergyGuide labeling program pursuant to the Energy Policy Act of 2005, and in the process, explored ways to improve the requirements for the placement of EnergyGuide labels on covered products. In August 2007, the Commission announced its final Rule amendments which, among other things, prohibit the label's placement on hang tags attached to the outside of appliances. We adopted this change to reduce the number of labels that become dislodged from products in showrooms. The new amendments also simplify the disclosure requirements for website retailers and encourage website sellers to post a copy of the EnergyGuide label itself to help consumers with their purchases. Now that the Commission has completed its review of, and amendments to, the Rule, we will continue to enforce the Rule and to address the availability of the label for consumers in showrooms and on websites.

Finally, the evidence demonstrates that the EnergyGuide label has been successful in meeting consumers' energy information needs. The Commission's consumer research, conducted as part of its recent rulemaking, found that over 85% of recent appliance purchasers who visited a retail showroom recalled seeing a label with energy characteristics. Of those respondents, 59% scored the usefulness of the label at a seven or higher on a scale of zero to ten. 72 Fed. Reg. 6836, 6841 (Feb. 13, 2007).² While we recognize that the availability of labels in showrooms warrants further attention, we do not believe such results would have been achieved if problems with the availability were as serious as the GAO suggests.

B. Effectiveness of the EnergyGuide Program

GAO Comment: "FTC does not measure the overall effectiveness or costs of the EnergyGuide program . . ."

FTC Response: The Commission has considered the effectiveness of the current label in assisting consumers in their purchasing decisions and improving energy efficiency as part its recently completed rulemaking. In addition, the FTC routinely examines the costs of the program as part of its obligations under the Paperwork Reduction Act.

The FTC's recent rulemaking on the EnergyGuide label examined the effectiveness of the label in aiding consumers in their purchases and improving energy efficiency in two ways. First, the Commission sought comments on the benefits of the EnergyGuide program. The results demonstrated a consensus among industry, consumer advocates, and energy efficiency groups that the current program is useful. (72 Fed. Reg. at 6840 (Feb. 13, 2007)).

Second, the FTC conducted consumer research to evaluate alternative label designs, and as part of this project, we explored consumers' views about the current label's effectiveness. The

² These numbers should be viewed in light of the fact that presumably, for some percentage of consumers, energy efficiency is not a high priority.

See comment 2.

See comment 3.

research suggests that consumers are willing to pay more for higher efficiency models when given the information on the EnergyGuide label. Additionally, as discussed above, study participants recognized the label and found it useful. The consumer research also explored additional effectiveness measures. For example, we examined how well various label designs allow consumers to identify and rank models of different energy efficiency; and the impact of the label on consumer comprehension of the Energy Star program. Based on this research and commenters' suggestions, we established a new label that should increase the program's effectiveness.

GAO's Report appears to urge the FTC to derive a quantitative measure of energy savings from the placement of EnergyGuide labels on appliances. A study of the label's impact on energy consumption would involve a comparison of the appliances purchased by consumers, and their use of those appliances, with and without the availability of labels. Because the label initially appeared nearly thirty years ago, and is required on all covered models, it is doubtful that a reliable baseline of comparison could be generated for such a study. Even if such a baseline could be established, a host of variables would impact any effort to derive a quantitative gauge of the label's effects. Such factors include, but are not limited to: (1) non-energy related factors considered by consumers, such as size, features, costs, color, performance, and quality; (2) the impact of DOE conservation standards on products offered in the market; (3) the uncertain relationship between label comprehension and actual buying behavior; (4) the impact of the Energy Star program on consumer decisions;³ and (5) the actual use of products by consumers.⁴

In light of all of these variables, we expect that any attempt to derive a quantitative measure of energy savings would yield highly speculative conclusions.⁵ Accordingly, we have sought to examine the label's effectiveness in other ways, including by asking consumers about the label's effectiveness as part of our consumer research project and through the rulemaking process. We believe that our analysis of the label's effectiveness has been useful, appropriate,

See comment 3.

³ GAO's Report indicates that EPA and DOE have generated such measures. EPA officials examine consumer awareness of the Energy Star program, much as we have done with the EnergyGuide label. EPA and DOE officials also provided GAO with general estimates of the Energy Star program's energy savings that appear to be based on sales data. According to the GAO Report, however, EPA officials recognize that more extensive analysis of the program's impact would be "difficult." We agree.

⁴ For example, if a consumer purchases a new dishwasher that uses significantly less energy per load but, hypothetically, must be run twice to clean dishes thoroughly, then the more "energy efficient" product may, in fact, lead to higher energy use.

⁵ We note that EPCA does not specifically identify energy savings as a factor for the FTC to consider in determining whether or not to require energy labels on covered products. For most covered products, EPCA (42 U.S.C. § 6294(a)(1)) directs the FTC to require product labeling unless the Commission finds that labeling is not "technologically or economically feasible." For some products, the statute also allows the FTC to consider whether labeling would "assist consumers in making purchasing decisions." (42 U.S.C. § 6294(a)(2)(A)).

and cost efficient, leading to the Commission's recent improvements to the EnergyGuide program.

C. Labels for New Products

GAO Comment: *"The Energy Guide program has changed little over time, even though energy conservation patterns are changing substantially. For example, televisions, computers, and other product categories - which are expected to account for nearly half of household energy consumption by the year 2020 - do not currently require an Energy Guide label."*

FTC Response: The FTC has no authority under EPCA to add new consumer products, such as computers, to the EnergyGuide program.⁶ Only Congress and DOE (pursuant to 42 U.S.C. § 6294(a)(19)) have this authority. For products that are covered by the law but currently not subject to labeling (such as televisions), the Commission has pursued labeling. For example, the Commission sought comment on the need for labels on televisions as part of our recent rulemaking. As discussed in our Federal Register notice (72 Fed. Reg. 6836 (Feb. 13, 2007)), energy information on television labels must reflect DOE test procedure results. The current DOE test procedure is inapplicable to modern televisions. Therefore, until DOE updates its test procedure, the FTC cannot require labeling for televisions.

D. Complaints and Enforcement

GAO Comment: *"FTC officials told us they rely on manufacturers to verify competitors' energy consumption estimates and to report any problems to FTC. However, FTC only tracks some of the complaints it receives from manufacturers and therefore could not provide the exact number of complaints it receives about the Energy Guide program."*

FTC Response: We wish to clarify the way in which the FTC staff handles complaints and addresses enforcement matters under the Appliance Labeling Rule. The data manufacturers must display on EnergyGuide labels is the same data they must provide to DOE under the testing and certification requirements of that agency's energy conservation standards program. The FTC has expertise in labeling and advertising law, but we do not have our own testing facilities nor any technical expertise to evaluate appliance energy data.

⁶ Section 324(e) of EPCA, 42 U.S.C. § 6294(e), requires DOE "in consultation with the" Commission to "study consumer products for which labeling rules under this section have not been proposed . . ." GAO's Report implies that the Commission has joint responsibility for such a task instead of the advisory role the statute's plain language assigns to the FTC. If Congress had intended FTC to have such joint responsibility, however, we expect it would have stated so clearly. See, e.g., section 615 of the Fair Credit Reporting Act which states "The Federal banking agencies, the National Credit Union Administration, and the Commission shall jointly . . . establish and maintain guidelines . . ." (15 U.S.C. § 1681m(e)).

See comment 4.

See comment 5.

See comment 6.

In evaluating industry compliance, however, the FTC staff does not rely solely on competitor testing. In the past, the staff has used testing information and expert analysis from other agencies, such as DOE and the National Institute of Standards and Testing, in addressing compliance concerns under the Rule. The FTC staff also considers complaints raised by other organizations and consumers. In addition, we view competitors as an important source of complaints. The required, standardized DOE test procedures allow manufacturers to verify their competitors' claims. Competitors who discover problems can provide this information to both DOE and the FTC. We see this as a positive aspect of the statutory framework Congress has developed under EPCA.

The FTC collects and maintains the complaints it receives on the Rule. Our staff's informal analysis conducted earlier this year showed that the FTC received fewer than a dozen complaints related to the Appliance Labeling Rule over the previous twelve months.⁷

Despite the limited volume of complaints, the staff examines significant compliance issues as they arise and, where appropriate, takes measures to bring companies into compliance. Considering the wide array of consumer issues we address and the relatively small number of compliance issues that arise under the EnergyGuide program, we believe that the FTC's approach to enforcement in this area is appropriate.

E. Computer Controls on Appliances

GAO Comment: *"In addition, energy efficiency experts and agency officials told us that the computer controls in modern appliances can enable appliances to detect test conditions . . . making it difficult to ensure that tests accurately measure energy consumption under normal operating conditions."*

See comment 7.


FTC Response: By discussing this test procedure circumvention issue in a paragraph related to FTC enforcement, the Report incorrectly implies that this is an FTC enforcement problem. Under EPCA, manufacturers of most covered products must use applicable DOE test procedures to measure the energy use of their products. Judging and modifying the adequacy of DOE test procedures is not within the FTC's purview. If DOE determines that a manufacturer is complying with the government-required test procedure, the FTC has little basis to challenge the legality of that manufacturer's practice. As GAO's Report indicates, DOE is considering changes to its rules to prevent manufacturers from manipulating energy tests.

⁷ We note that the FTC does not resolve individual consumer complaints but, instead, uses such complaints to identify patterns of law violations that may warrant attention.

**Appendix V: Comments from the Federal
Trade Commission**

The Commission appreciates the opportunity to review and comment on GAO's Report.

By direction of the Commission.


Deborah Platt Majoras
Chairman

The following are GAO's specific comments on the Federal Trade Commission's (FTC) letter dated September 10, 2007.

GAO Comments

1. Although placement of information on the Web site may be helpful, it is not a sufficient step on its own to ensure that consumers have access to energy efficiency information in retail stores and on retail Web sites where consumers purchase equipment covered by the EnergyGuide. Neither the law nor the program's rules allow manufacturers and retailers to substitute placement of energy data on FTC's Web site for placement of labels on equipment or on retailer Web sites. In addition, even if such alternative placement was allowed, it is not clear how most consumers would know to go to FTC's Web site when shopping for covered equipment. We continue to believe that FTC should inspect retail stores to ensure that EnergyGuide labels are available to consumers.
2. Although FTC has conducted a survey of consumers as part of its recent rulemaking, we do not believe that the consumer survey demonstrates the EnergyGuide is available to consumers. FTC stated that 85 percent of consumers answered that they recalled seeing a label with energy characteristics and of those respondents, 59 percent found it useful and FTC presented this evidence that EnergyGuide labels are available. We disagree that the FTC survey is convincing in demonstrating this point. In contrast to our study, which was based on direct inspection of many appliances in multiple locations, the FTC survey relied on consumers to accurately recall—and to accurately report—whether or not they saw a label on an appliance for as long as two years prior to the date of the survey. We did not attempt to assess the reliability of FTC's survey; however, other results from the FTC survey raise questions about the accuracy of some respondents' memories and the usefulness of the survey as a tool to reliably assess the availability of EnergyGuide labels. For example, 41 percent of the respondents who reported seeing a label could not recall that the label was yellow with black letters, which raises doubts about the accuracy of some respondents' memories and the usefulness of the survey to support FTC's position.¹ Given the limitations with FTC's survey, we agree with FTC's statement that the availability of labels in showrooms

¹Harris Interactive, *FTC Energy Label Research Study*, a special report prepared for the Federal Trade Commission, January 2007, p. 7.
<http://www.ftc.gov/os/2007/01/R511994EnergyLabelingEffectivenessFRNConsResBkgrdInfo.pdf>

warrants further attention. As such, we continue to believe that FTC should monitor the availability of the EnergyGuide label and, within existing authority, enforce compliance through periodic inspections of retail showrooms and Web sites.

3. Regarding the effectiveness of the EnergyGuide program, FTC states that it routinely measures the costs of the EnergyGuide program as part of its obligations under the Paperwork Reduction Act, and qualitatively measured the program's effectiveness during its February 2007 rulemaking. During the course of our audit work, FTC staff was unable to provide to us information describing the costs and effectiveness of the program in recent years and expressed a variety of concerns about doing so. The Paperwork Reduction Act costs FTC now cites, but still has not provided to GAO in sufficient detail for us to review them, may or may not fully cover the costs of administering the program. Also, we disagree with FTC's statement that FTC measured effectiveness in its consumer survey and that measuring energy savings would be "highly speculative." As noted in our response to comment 2, we have concerns about FTC's reliance on its 2007 consumer study and comments it took during its recent rulemaking to measure the effectiveness of the EnergyGuide program, and believe it would be better to develop an estimate of the program's actual energy savings. We recognize that measuring program results and effectiveness generally involves some estimation; Standards for Internal Control in the Federal Government point out that internal controls only need to provide reasonable, not absolute, assurance that goals and objectives are being met.² Moreover, the 2006 survey is not an adequate measure of effectiveness because it is not done regularly. In this regard, we continue to believe that FTC should regularly report the costs and accomplishments of the program, and it appears, as DOE noted in its comments, that DOE plans to meet with FTC to help it do so.
4. As noted in our report, we believe FTC has a shared responsibility, with DOE, for adding new products to the EnergyGuide program. As suggested in our recommendations, and noted in DOE's comments, we believe that FTC should work with DOE to collaboratively evaluate and determine whether additional products should be included in the EnergyGuide program. We continue to believe that FTC should work

²GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#) (Washington, D.C.: November 1999), p.6.

with DOE to add new products to the EnergyGuide program to keep the program relevant with changes in consumer purchasing patterns.

5. While FTC is not required to verify energy consumption estimates, the Energy Policy and Conservation Act (EPCA) clearly contemplated that such testing may be desirable or required. In this regard, the law specifically provides FTC with the sole legal power to require manufacturers, at their expense, to provide FTC with appliances for testing and verification.³ We recognize that such testing could be difficult given FTC's current lack of expertise to evaluate appliance energy data. However, FTC could augment its own expertise with that of others, such as DOE, the National Institutes of Science and Technology, and others FTC identified in its comments. As such, we believe that this presents another opportunity for FTC and DOE to collaborate for the benefit of consumers. Therefore, we continue to believe that our characterization is appropriate.
6. During the course of our audit, FTC staff told us that they collected complaints regarding the EnergyGuide program. However, when we asked to examine these complaints, FTC did not provide us either with records of these complaints or information on how the issues were resolved, nor evidence that these issues were resolved. FTC also informed us that individual staff members received some complaints that they did not track, and that these complaints were resolved informally. We continue to believe that FTC should use a routine, systematic method of tracking complaints that it receives from manufacturers and others and the manner in which the issues raised in these complaints are resolved in order to improve effectiveness; however, based on FTC's comments, we clarified the language of our recommendation to better reflect the need for systematic tracking of complaints, the issues raised in these complaints, and their resolution.
7. We did not intend for our report to imply that this issue was solely the responsibility of FTC. Rather, because it could become more important in the future, we believed it was important to raise this issue to FTC, DOE, EPA, and the Congress. As DOE notes in its comments, DOE is considering revisions to its testing procedures to limit manufacturers' circumvention of DOE test procedures. As DOE completes these revisions, FTC enforcement will be needed because EPCA requires FTC to enforce the accuracy of EnergyGuide labels.⁴ In response to

³Pub. L. No. 94-163 § 326(b)(3)

⁴Pub. L. No. 94-163 § 333(a)

this comment, we clarified the language in our report to better reflect our intent.

Appendix VI: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

In addition to the contact named above, key contributors to this report included Dan Haas and Jon Ludwigson (Assistant Directors), Lee Carroll, Kristen Massey, Alison O'Neill, Frank Rusco, Rebecca Shea, and Barbara Timmerman. Important assistance was also provided by Nicolas Alexander, Jeffrey Barron, Mark Braza, Casey Brown, Dan Egan, Amy Higgins, Randy Jones, Jennifer Leone, Stuart Ryba, and Bruce Skud.

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