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United States Government Accountability Office  
Washington, DC 20548

October 31, 2008

The Honorable Barbara Boxer  
Chairman  
The Honorable James M. Inhofe  
Ranking Member  
Committee on Environment and Public Works  
United States Senate

The Honorable John D. Dingell  
Chairman  
The Honorable Joe L. Barton  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

*Subject: Status of GSA's Implementation of Selected Green Building Provisions of the Energy Independence and Security Act of 2007*

According to the U.S. Environmental Protection Agency, buildings in the United States account for 68 percent of the nation's total electricity consumption and 39 percent of its total energy consumption. In December 2007, Congress enacted the Energy Independence and Security Act of 2007 (EISA) to, among other things, increase energy efficiency and the availability of renewable energy in federal buildings. Specifically, the act established new energy-related requirements and standards for federal buildings and for the agencies that oversee them. For example, it required the General Services Administration (GSA) to establish an Office of Federal High-Performance Green Buildings to coordinate green building information and activities within GSA and with other federal agencies.

The act also required GAO to report to Congress on the implementation of certain provisions contained in EISA by October 31, 2008, and October 31, 2009.<sup>1</sup> As determined in consultation with your offices, this report fulfills the 2008 requirement by addressing the status of GSA's implementation of selected EISA requirements

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<sup>1</sup>Energy Independence and Security Act of 2007, Pub. L. No. 110-140, § 437, 121 Stat. 1492, 1619—1620 (2007).

related to high-performance federal green buildings.<sup>2</sup> We selected GSA as the focus of our initial report because GSA is responsible for the design, construction, operation, and maintenance of thousands of federally owned or leased facilities and GSA's tenants represent a wide cross section of federal agencies. Specifically, this report provides general information on the status of GSA's (1) establishment of an Office of Federal High-Performance Green Buildings, (2) designation of energy managers for federally owned facilities, (3) adoption of a certification system for federal green buildings, and (4) efforts to accelerate the use of more cost-effective technologies and practices at GSA facilities. To gather this information, we met with GSA headquarters officials, including the Acting Director of GSA's Office of Federal High-Performance Green Buildings, and reviewed relevant agency documentation, such as the GSA Web site and a testimony on federal green buildings. We also reviewed relevant provisions of EISA (Pub. L. No. 110-140). We conducted our work during October 2008.

In summary, GSA appointed an Acting Director for the Office of Federal High-Performance Green Buildings in March 2008 and a few months later, announced the establishment of this office within GSA. According to GSA officials, GSA plans to designate energy managers for its federally owned facilities by November 2008. For certification, GSA has adopted the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) green building standards.<sup>3</sup> GSA is also in the early stages of implementing a program to accelerate the use of more cost-effective technologies and practices at GSA facilities.

### **GSA Has Established an Office of Federal High-Performance Green Buildings**

In March 2008, GSA appointed an Acting Director for the Office of Federal High-Performance Green Buildings and a few months later, in June, announced the establishment of the office within GSA's Public Buildings Service. Some of the functions of this office include reviewing and coordinating high-performance green building information and activities within GSA and the federal government, identifying and developing standards for federal high-performance green buildings, and gathering data and developing benchmarks.

### **GSA Plans to Designate Energy Managers for Its Federally Owned Facilities**

GSA plans to designate the facility manager for each of its 8,600 federally owned properties as the energy manager for that facility and said it plans to have all energy managers in place by mid-November 2008. According to GSA officials, a facility manager may also oversee more than one facility and, in those instances, the energy manager would be responsible for more than one facility. As part of their responsibilities, energy managers are required by law to conduct energy and water evaluations of federal facilities. The purpose of these evaluations is to identify and

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<sup>2</sup>Section 437 of EISA requires GAO to conduct an audit and report by Oct. 31, 2009. The scope of that work will reflect GAO discussions with congressional committees of jurisdiction.

<sup>3</sup>LEED is a third-party certification program and the nationally accepted benchmark for the design, construction, and operation of high-performance green buildings, according to the U.S. Green Building Council.

implement energy- and water-saving measures within specific time frames.<sup>4</sup> In addition, each of GSA's 11 regions has an energy coordinator dedicated to energy conservation management.

### **GSA Has Adopted a Green Building Rating System for Its Facilities**

In 2003, GSA adopted the U.S. Green Building Council's Green Building Rating System, LEED, which requires third-party verification that a project is certified to meet green building standards. Since that time, GSA has required that the LEED green building rating system be used as a design criterion for all capital projects and has set as a goal for all such projects that they receive at least a "silver" certification.<sup>5</sup>

### **GSA Has Begun to Establish a Technology Acceleration Program**

GSA has begun to establish a program for accelerating the use of more cost-effective technologies and practices at GSA facilities, according to GSA officials. GSA officials said that such technologies and practices provide opportunities for energy reductions within their facilities. As part of this technology acceleration program, in the spring of 2008, GSA reviewed the use of cost-effective lighting technologies in GSA facilities. GSA also indicated that it would evaluate the use of geothermal heat pumps in its buildings on a case-by-case basis as it undertakes major renovations of federal facilities.<sup>6</sup> GSA has adopted this approach, officials said, because geothermal technology, though potentially cost-effective for new construction, can be technically challenging and costly to install in existing buildings. Furthermore, GSA officials told us, GSA is using other cost-effective practices in its facilities, such as reducing the need for artificial light by maximizing the use of natural light, insulating buildings more efficiently, and installing green (planted) roofs, which can absorb carbon dioxide while insulating facilities. According to GSA officials, the principal barrier to improving the energy performance of its existing buildings is the limited availability of capital for addressing a backlog of repairs and alterations that would improve energy or water conservation. GSA is seeking to address this, in part, through an expanded, deliberate program increasing the use of Energy Savings Performance Contracts (ESPC) and Utility Energy Savings Contracts (UESC).

### **Agency Comments**

We provided a draft of this report to GSA for review and comment. In an emailed response, GSA agreed with the report and provided additional information about improving the energy and water efficiency in existing buildings, which we have incorporated, as appropriate.

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<sup>4</sup>Energy Independence and Security Act of 2007, Pub. L. No. 110-140, § 432(3), 121 Stat. 1492, 1608 (2007).

<sup>5</sup>The LEED system awards points for meeting a variety of standards and designates a building as certified, silver, gold, or platinum.

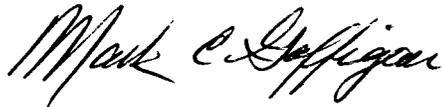
<sup>6</sup>Geothermal heat pumps can be used to heat, cool and, if so equipped, supply a facility with hot water by using the constant temperature of the earth as the exchange medium instead of the outside air temperature. Relative to air-source heat pumps, geothermal heat pumps are highly efficient, last longer, need little maintenance, and do not depend on the temperature of the outside air.

We are sending copies of this report to appropriate congressional committees, the Administrator of GSA, 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 has any questions about this report, please contact Terrell Dorn at (202) 512-6923 or [DornT@gao.gov](mailto:DornT@gao.gov) or Mark Gaffigan at (202) 512-3841 or [GaffiganM@gao.gov](mailto:GaffiganM@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report were Steve Cohen and Karla Springer, Assistant Directors; Lauren Calhoun; Jean Cook; Gary Stofko; and Tracy Williams.



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