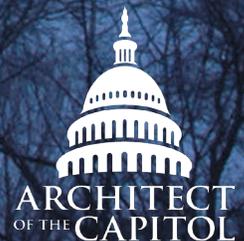


A Legacy of Sustainability

FISCAL YEAR 2014 ANNUAL SUSTAINABILITY, ENERGY
AND WATER CONSERVATION REPORT



Cover: The U.S. Capitol during late winter, Fiscal Year 2014.

At right: Statuary Hall in the U.S. Capitol.

Back Cover: Cherry blossoms at Taft Memorial in Senate Parks.

Congressional Mandates and Oversight

The Architect of the Capitol (AOC) is part of the legislative branch of government and serves Congress and the U.S. Supreme Court. It is responsible for the maintenance, operation, development and preservation of the U.S. Capitol Buildings and Grounds. As stewards of the Capitol campus and its offsite facilities, the AOC is required to meet annual reductions in energy consumption under the Energy Policy Act of 2005 (EPA2005) and the Energy Independence and Security Act of 2007 (EISA2007).

In accordance with EISA2007, the AOC is driven to apply aggressive standards to reduce energy use by three percent annually from Fiscal Year (FY) 2003 levels, yielding a 30 percent total reduction by FY 2015.

This report was created to inform Congress and the public of the AOC's progress on meeting its efficiency goals as well as its future commitments to sustainability and water efficiency. It includes details on the AOC's approach, achievements and areas identified for continued progress.

All photographs provided by the AOC's photography branch.



Our Mission

To serve Congress and the Supreme Court, preserve America's Capitol and inspire memorable experiences.

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Message from the Architect of the Capitol

The Architect of the Capitol (AOC) is committed to sustainability. Since 2005, we have invested more than \$90 million in infrastructure upgrades and identified \$80 million in energy savings. As caretakers of the nation's most significant buildings, preservation and sustainability are part of our core services.

During Fiscal Year (FY) 2014, the Washington, D.C., metro area experienced the coldest January through April weather in more than 10 years. The weather drastically impacted our agency's fuel use and, consequently, energy performance. In response to the heating demand, our teams formulated an energy recovery plan to increase the U.S. Capitol Power Plant's efficiencies and streamline building operations.

Despite the cold weather, we were able to maintain a 25.5 percent energy reduction, narrowly missing our goal of 27 percent. Looking ahead, the agency is positioning itself to act faster, smarter and more efficiently. We learned the importance of aggressively monitoring daily energy use at a granular level. In FY 2015, our teams will perform at higher levels to effectively reduce the AOC's energy use by 30 percent by the end of the fiscal year.

One of the projects I'm most excited about is the use of a new data mining system that facilitates real-time action on operational deficiencies. The project is already producing energy conservation results.

We will continue to prioritize investment projects that support not only our major initiatives but also our bottom line. As the designers, builders and conservators of some of our most important cultural assets, it is our obligation and privilege to continue to strengthen the nation's historic spaces for future generations by making them more sustainable and efficient.

With this, our ninth report to Congress and the public, I'm proud to say that we have created a more efficient campus and managed tax dollars effectively. Entering into the final year for reporting on the Energy Independence and Security Act of 2007, the AOC's targets for improving its energy and sustainability performance are ambitious. I remain steadfast in my convictions that the agency will be successful in meeting its FY 2015 goals.

Sincerely,

A handwritten signature in black ink that reads "Stephen Ayers". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Stephen T. Ayers, FAIA, LEED AP
Architect of the Capitol



WHAT WE ACCOMPLISHED

The U.S. Capitol Power Plant provides steam and chilled water to heat and cool more than 20 buildings across Capitol Hill and Union Station. These buildings are referred within this report as “the buildings on Capitol Hill.”

25.5%

Energy reduction from a FY 2003 baseline

\$14 Million

Costs avoided through new energy reductions

72

Sustainability reviews of potential capital improvement projects

22.5%

Electricity produced with renewable energy

30%

AOC’s square footage that met the Guiding Principles for Federal High Performance Buildings

16.4%

Water reduction from a FY 2007 baseline

23%

Reduction in the AOC’s greenhouse gas footprint from a FY 2008 baseline

39%

Operational materials recycled

2,640

Tons of operational waste recycled

83%

Construction waste debris recycled

500

Tons of construction waste recycled





Section 1: Strategic Vision Performance Report





AOC project teams work to repair and restore the Capitol Dome.

Executive Summary

PERFORMANCE RESULTS UNDER THE STRATEGIC GOAL: AWE-INSPIRING FACILITIES, PROMOTE A CULTURE OF RESOURCE CONSERVATION

Sustainability and the Strategic Vision

The Architect of the Capitol (AOC) Strategic Vision provides a framework for performance reporting for Fiscal Year (FY) 2012-2016. The vision addresses principal program areas related to facilities operational support, project delivery and the preservation of heritage assets and historic structures. Each goal and objective contains performance measures that demonstrate how the AOC is making progress. Sustainability is addressed in three focused areas:

- Improve facilities' asset performance through energy and resource conservation.
- Integrate sustainable practices into business operations.
- Strengthen a culture of sustainability with stakeholders and external organizations.

The AOC's Sustainability, Energy and Water Conservation Division is responsible for tracking, supporting and reporting on initiatives related to energy conservation and sustainability on behalf of the agency. The full performance report (pages 16-43) provides additional details on the AOC's initiatives and priorities related to the strategic goal, awe-inspiring facilities and resources conservation.

FIGURE 1: ANNUAL ENERGY REDUCTIONS

ENERGY REDUCTION THROUGH FY 2014

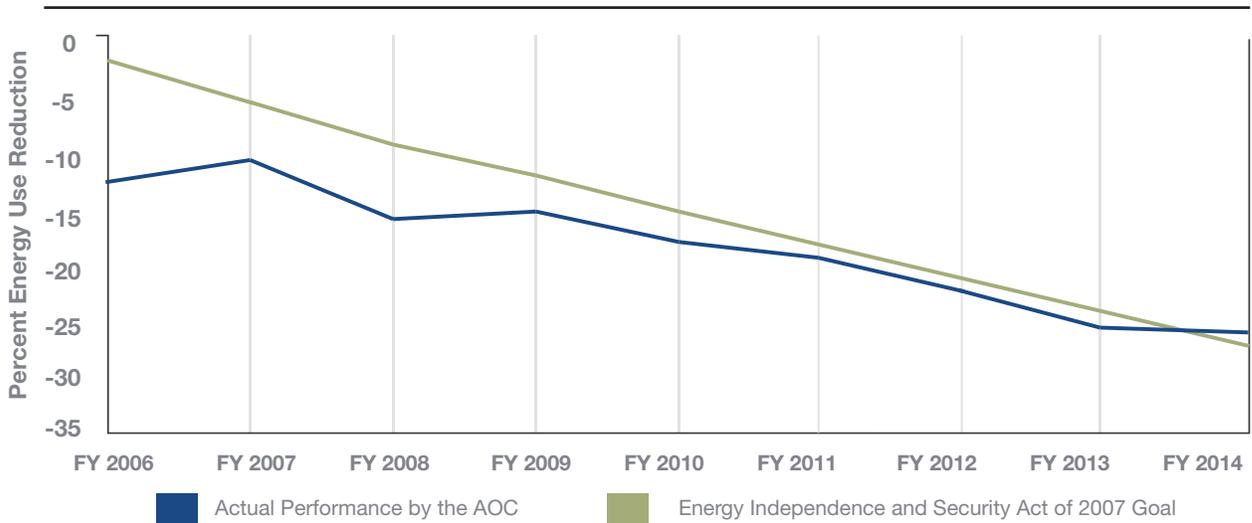


Figure 1 illustrates the AOC's energy performance toward the EISA2007 goal from FY 2005 to FY 2014. The law requires a reduction of three percent in energy consumption every year from the FY 2003 baseline with a total of 30 percent by FY 2015.

Strategic Area One: Improve Facilities' Asset Performance through Energy and Resource Conservation

Energy reduction targets found in the Energy Independence and Security Act (EISA 2007) and Energy Policy Act of 2005 (EPAct2005) are the primary metrics used to assess the AOC's energy performance. FY 2014 denotes the AOC's ninth year of reporting to Congress and the public in accordance with its legislative requirements.

In FY 2014, despite continued savings, the AOC fell just short of its interim target. The energy reduction target was 27 percent and the AOC achieved a savings of 25.5 percent. The shortfall reflects the impact of extreme weather from January through April 2014, which produced the coldest four-month stretch in more than 10 years. The AOC estimates that the cold weather accounted for 1.5 to 2 percent in additional energy consumption.

To improve facility performance, the AOC implements annual energy plans. These plans are organized and conducted through a phased approach:

- A weekly performance review uses metering, weather and equipment trending. This process provides snapshots of the thermal and electrical energy performance of the buildings and major utility systems on Capitol Hill. Metrics are compared against expected performance in order to verify whether targets are being met.

- A monthly analysis compares actual building energy performance against modeled assumptions.
- An annual energy performance plan forecasts anticipated new project-specific reduction (accounts for sustained energy savings) and identifies operational based resource conservation opportunities.

Strategic Area Two: Integrate Sustainable Practices into Business Operations

The AOC continues to find new ways to integrate sustainability into its services. In FY 2014, the agency continued its focus on energy audits, retro-commissioning, technical design guidance and training to ensure persistent energy savings. The AOC also partnered with the Association of Energy Engineers for ongoing education and certification programs.

Specific examples of business operations tools developed:

- Sustainability guidelines for design, construction and purchasing.
- Management plans to incorporate sustainability into daily operations.
- Execution of a new construction waste management specification.
- Execution of demand response plans on peak electricity grid consumption days.
- Project scorecards to ensure energy conservation and sustainable best practices are evaluated throughout the planning, design and construction process.

Strategic Area Three: Strengthen a Culture of Sustainability with Stakeholders and External Organizations

The AOC facilitates and supports working groups that consist of stakeholders from across Capitol Hill, other government agencies and external trade associations.

Internally, the AOC engages with staff from the Library of Congress, U.S. Botanic Garden, U.S. Capitol Power Plant and U.S. Supreme Court on its sustainability and stewardship goals. These efforts strengthen a culture of sustainability by involving the Capitol Hill community in understanding and setting a vision toward environmental stewardship.

Capitol Hill initiatives championed by the AOC:

- Energy Management Working Group
- Recycling Working Group
- Bike Team
- Preservation/Heritage Assets Working Group

The AOC also works with external groups and participates alongside executive branch agencies, representing the legislative branch at federal stakeholder meetings. The intent is for the AOC to learn from best practices and communicate its program, goals and initiatives outside of the agency.

External participation:

- Interagency Sustainability Working Group
- Interagency Energy Conservation Working Group
- Interagency Energy Management Task Force
- Federal Energy Savings Performance Contracting Steering Group
- Monumental Core Climate Adaptation Working Group
- Building Technology Research and Development Working Group
- Association of Energy Engineers
- Construction Industry Institute
- International District Energy Association



PRE-CONTACT AMERICA

To learn about the indigenous peoples of the Americas, scholars draw on the rare texts that survived the European encounter, as well as objects used by indigenous peoples. The richest source of Pre-Columbian historical information comes from the ancient Maya, who developed the most sophisticated writing system in the Americas. The Maya and other native cultures often embellished their texts with illustrations, recording or carving them on objects of stone, ceramic, wood, and other surfaces. This section of the exhibit draws on select artifacts in the Kislak Collection and presents them as objects that, like books or documents, provide us with information about ceremonies, wars, court life, alliances, astronomy, calendars, and the reigns of kings. Reflecting the strengths of the Kislak Collection, this area deals principally with the pre-contact cultures of Mesoamerica, a territory that includes most of the modern countries of Mexico, Guatemala, Belize, western Honduras, and El Salvador.

CONTEXT

EXPLORATIONS AND ENCOUNTERS

Section 2: Annual Update



ABOUT JAY I. KISLAK

Jay Kislak is more than a collector. His insatiable thirst for knowledge has inspired a lifelong love of books. Mr. Kislak and his wife, Jean, are art connoisseurs and avid collectors with far-ranging interests and the connoisseur's eye for quality.

Born in Philadelphia, New Jersey, Mr. Kislak graduated from the Wharton School of Finance at the University of Pennsylvania in 1942 and worked as a real estate broker during World War II. After the war, he founded the real estate brokerage and mortgage banking business founded by his father in 1906.

Early in his career, Mr. Kislak moved to Florida and began a half-century exploration of the history of his new home. Attracted to rare maps and books, he began amassing a comprehensive collection on early Florida, the Caribbean, and Mesoamerica.

As his interest deepened over the years, he acquired many rare books and manuscripts that pertained to the early years of European exploration. Jay and Jean later expanded their collecting to include artifacts produced by indigenous civilizations of the Western Hemisphere. As a book collector, Mr. Kislak was especially intrigued by the culture of the Maya, who developed the earliest written language in the hemisphere.

Because of the gift of the Kislak Collection, with its related exhibitions and programs of research and education, more than 3,000 rare books, maps, documents, art works, and artifacts are now available to the public and to scholars for study and enjoyment.



AOC project team assesses work to repair and revitalize the Capitol dome.

Fiscal Year 2014 Report

PERFORMANCE RESULTS FOR ENERGY AND SUSTAINABILITY INITIATIVES, IMPACTS AND ACHIEVEMENTS

Energy

The AOC's mission recognizes the agency's tremendous responsibility to sustain the nation's heritage assets while balancing modern demands. Its care of 17.4 million square feet of facilities and more than 30,000 building occupants offers a unique opportunity to ensure that our nation's most important buildings represent the core values of our government, including energy and sustainability objectives.

The AOC works to reduce its energy footprint through improved facility performance, improvement projects and production efficiencies at the U.S. Capitol Power Plant. This section focuses on the agency's energy performance in FY 2014.

Weather Impacts

Building energy performance varies according to the type of facility, local climate and operations provided. The AOC's comprehensive energy program accounts for these factors and includes a robust benchmarking program to measure divergencies as a result of changes in climate or other characteristics.

The agency benchmarks its buildings using models to compare actual performance against theoretical or best case scenarios. These best case scenarios allow the AOC to create goals, validate performance and respond to inconsistencies. Mechanical systems, operational decisions and weather drive a building's actual performance.

Figure 2 below shows the AOC's actual, monthly performance against the FY 2014 goal line. Early in the first quarter, the AOC tracked in-line with planned assumptions. The second quarter saw a setback attributed to unusually cold weather.

At that time, a revised energy recovery plan was issued and then implemented during the third quarter. As a result, fourth quarter performance showed substantial improvement by the end of the fiscal year.

FIGURE 2: MONTHLY ENERGY PERFORMANCE ENERGY REDUCTION THROUGH FY 2014

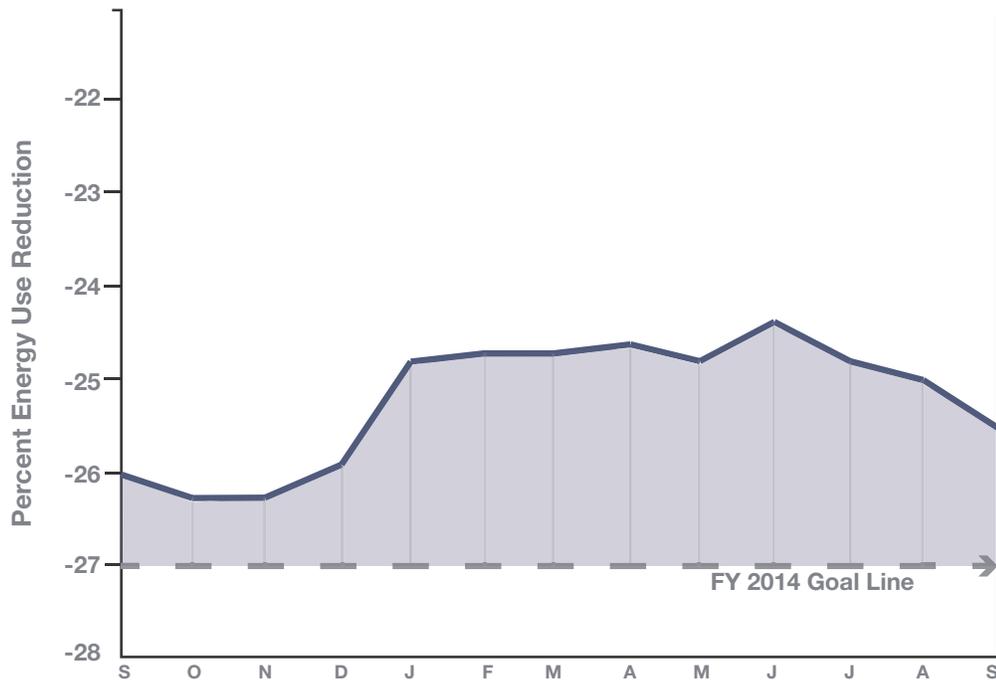


Figure 2 illustrates the AOC's monthly energy performance toward the FY 2014 EISA goal. In FY 2014, the AOC fell just short of its interim target. The energy reduction target was 27 percent and the AOC achieved a savings of 25.5 percent.

Cold weather was the primary driver of the AOC's increased energy demand. The extreme outdoor temperature fluctuations imposed high fuel use requirements, driving expected performance significantly higher. Figure 3 at right demonstrates how heating makes up more than half of our energy consumption.

One of the most tangible ways to convey the weather's impact and visualize demand is through degree day comparisons. Degree days provide a relative measure of the seasonal temperatures and related heating or cooling requirements. The more extreme the temperature, the higher the number of degree days, which translates to higher energy consumption. Figure 4 below illustrates the heating requirements experienced by the AOC during the winter of FY 2014.

FIGURE 3: FY 2014 ENERGY CONSUMPTION BY CATEGORY

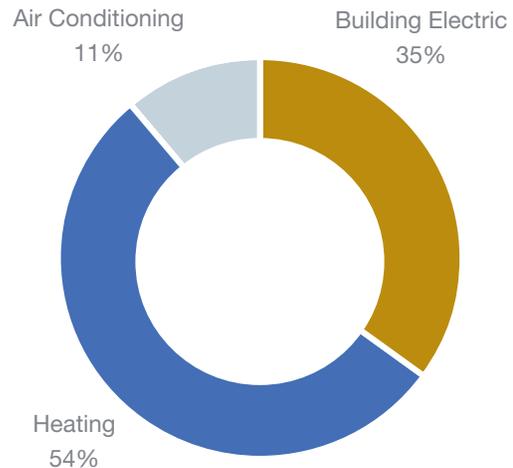


Figure 3 illustrates the AOC's total energy use by category in FY 2014.

FIGURE 4: DEGREE DAYS HEATING DEGREE DAY COMPARISON

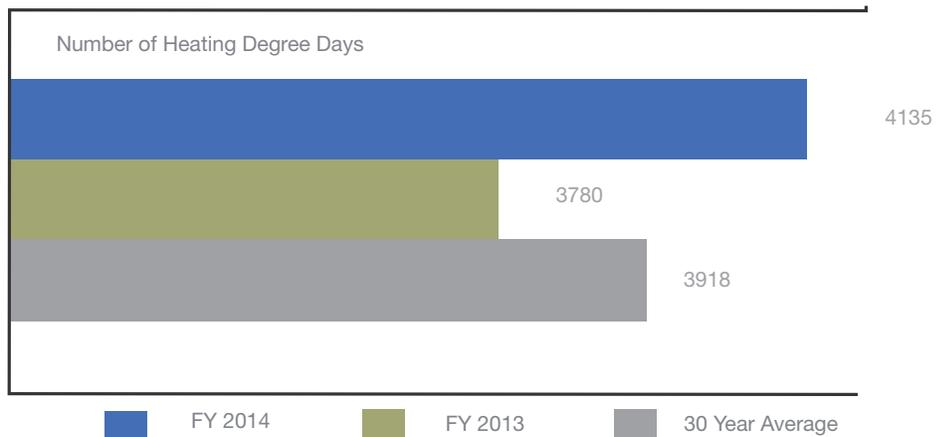


Figure 4 shows the number of heating degree days that occurred in FY 2014 compared to FY 2013 and against a 30-year average. Heating degree days are measurements designed to reflect the demand for energy needed to heat a building. A heating degree day is the number of degrees that a day's temperature is below 65 degrees Fahrenheit.

Energy Savings Performance Contracts Update

In 2011, the AOC entered into three Energy Savings Performance Contracts (ESPC) for the Capitol, House Office Buildings and Senate Office Buildings. Through these projects, the AOC made significant upgrades to its infrastructure with minimal up-front capital investment. Improvements are paid for with future savings, without significant appropriations.

Today, construction is complete and each project has transitioned into training, implementation and performance phases. The projects are exceeding their expected energy savings targets. In FY 2014, the AOC made annual energy savings payments of \$8.8 million realized through the ESPC projects.

The ESPC projects represent a substantial portion of the AOC's overall energy savings to date. In FY 2014, 15 percent of the total 25.5 percent energy reductions achieved resulted from the ESPC effort.

Below are examples of improvements made by the ESPC projects:

- Pneumatic to direct digital control conversion for major air handling units
- Wireless space condition feedback technology
- Demand control ventilation
- Daylight harvesting
- Occupancy sensors and bi-level lighting controls
- Night time/weekend control setbacks for lighting and space conditioning
- Condensate harvesting
- Low flow, automated plumbing fixtures
- Transformer replacements for increased electrical efficiency

Renewable Energy

Using renewable energy sources, such as solar and wind, instead of fossil-fuel-based energy sources can reduce air and water pollution. As part of an ongoing power purchase agreement through the General Services Administration, 22.5 percent, or 70,500 mega-watt hours, of the AOC's electricity is generated using renewable technology. In FY 2015, the AOC will continue to evaluate and pursue small-scale solutions and alternate financing to make on-site renewable energy more feasible and economically viable.

Improvement Projects

The coming fiscal year includes two initiatives at the U.S. Capitol Power Plant that will contribute to further energy reduction. First is the combination of a full-year realization of savings from the feedwater pump project completed in summer of FY 2014 and the completion of phases one and two of the refrigeration modernization project.

A second major project is currently in development at the Capitol Power Plant - cogeneration. Cogeneration, also called Combined Heat and Power (CHP), is defined by the Department of Energy (DOE) as “the concurrent production of electricity or mechanical power and useful thermal energy (heating and/or cooling) from a single source of energy.” DOE also states that when compared to traditional power systems, “it is reasonable to expect CHP applications to operate at 65-75 percent efficiency, a large improvement over the national average of 45 percent for these services when separately provided.”

The figure below illustrates the production process as compared to a traditional utility system. The process uses turbines for waste heat to produce steam and drive efficiency. At a typical power plant, the waste heat from the combustion process is discharged to the atmosphere or body of water. In a cogeneration system, the AOC is able to extract this waste heat energy to create useful steam.

FIGURE 5: COMBINED HEAT AND POWER PROCESS FLOW DIAGRAM

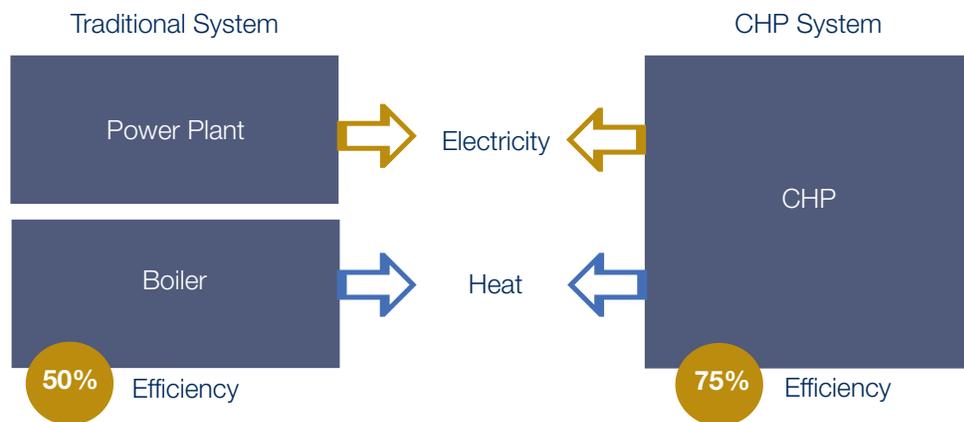


Figure 5 illustrates the efficiency comparison of a CHP system versus traditional power and steam production. The illustration is taken from the Department of Energy, Office of Energy Efficiency and Renewable Energy, “Combined Heat and Power Basics” webpage, at: <http://www.energy.gov/eere/amo/combined-heat-and-power-basics>

Sustainability Highlights, Initiatives and Implementation

Achieving a sustainable U.S. Capitol complex is at the core of the agency's mission. Sustainable practices include:

- Improving energy and water efficiency
- Using low-impact materials
- Promoting health and wellness
- Sustaining cultural landscapes
- Integrated assessment, operation and management
- Revitalization of existing structures

The AOC tracks the implementation of sustainable strategies against its internal metrics, legislative mandates and the targets established by other federal agencies. It focuses on energy, water, indoor environmental quality, materials and site initiatives that impact and are impacted by the agency's existing buildings, infrastructure and people. These commitments are outlined on pages 22-23.

FIGURE 6: SUSTAINABILITY PROGRAM ELEMENTS PRIORITY COMPONENTS



Figure 6 shows the relationship between the AOC's priority components and elements of its sustainability program - materials, energy, water, site and indoor environmental quality.

Summary of Overall Sustainability Commitments

The AOC developed commitments for energy, water, materials, indoor environmental quality and site components. Each commitment is cross referenced against required implementation elements: Buildings, Infrastructure and People. The check mark on the left identifies achievement of the goal at the end of Fiscal Year 2014. All commitments are ongoing as the AOC continues to track progress towards 100 percent completion.



BUILDINGS



INFRASTRUCTURE



PEOPLE

PORTFOLIO GOALS*

- 


Achieve compliance with the Guiding Principles for Sustainable Existing Buildings in 15 percent of AOC's buildings (greater than 5,000 square feet) by the end of FY 2015.
- 


Track and assess new construction and major renovation projects to the United States Green Building Council's Leadership in Energy and Environmental Design (LEED®) rating system by the end of FY 2014.
- 



Track and assess 100 percent of goal-subject buildings by the end of FY 2016. Buildings will be metered for electricity, steam and chilled water; and benchmarked against current and ideal building performance models.

ENERGY

- 



Reduce overall energy use intensity by 30 percent by the end of FY 2015.
- 



Reduce Greenhouse Gas (GHG) Emissions (Scope 1 and 2) by 25 percent compared to the FY 2008 baseline by the end of FY 2016.

* Portfolio Goals refer to goals that can impact each of the five elements: energy, water, materials, indoor environmental quality and site. Further details and information about the goals can be found at www.aoc.gov.

WATER



Track and assess 100 percent of water use by the end of FY 2016.

Meet the Guiding Principles for Sustainable Existing Buildings for indoor and outdoor water requirements in 15 percent of AOC buildings by the end of FY 2015.

MATERIALS



Reduce, reuse or recycle at least 40 percent of **building occupant waste** by the end of FY 2016.

Reduce, reuse or recycle at least 80 percent of **construction and demolition waste** by the end of FY 2016.

Divert 90 percent of non-recyclable, building occupant waste for waste-to-energy by the end of FY 2016.

Develop an Environmentally Preferable Product Policy by the end of FY 2015.

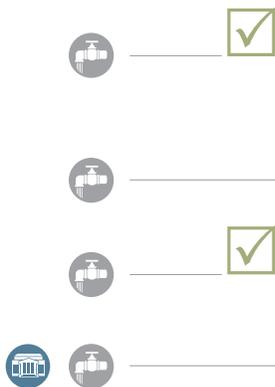
INDOOR ENVIRONMENTAL QUALITY



Provide a comfortable and productive environment that achieves ventilation and thermal comfort levels as defined in American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 55-2004 and 62.1-2007 in 15 percent of buildings by the end of FY 2014.

Develop a Moisture Control Strategy and associated implementation strategy by the end of FY 2015.

SITE



Design new construction projects of greater than 5,000 square feet that impact surrounding site area **to meet and/or exceed stormwater regulations** by the end of FY 2016.

Design new landscaping projects to meet the Sustainable Sites Initiative™ (SITES) standard by the end of FY 2016.

Where applicable, **track landscapes within the Guidance for Federal Agencies on Sustainable Practices for Designed Landscapes** by the end of FY 2016.

Evaluate and document climate change risks and the potential impacts on the agency's mission, programs and operations by the end of FY 2016.

Guiding Principles and Federal Initiatives

Under Executive Order 13514, executive branch agencies must comply with the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings. As a legislative agency, the AOC voluntarily committed to meeting the Guiding Principles for Sustainable Existing Buildings by the end of FY 2015.

The Guiding Principles are a federal high-performance and sustainable building standard. Focus areas include reducing energy and water use, improving indoor air quality and reducing the environmental impact of materials through procurement practices and waste diversion.

To meet standards defined in the Guiding Principles, the AOC must achieve compliance for 15 percent of its spaces by September 30, 2015. To date, 30 percent of the AOC building portfolio is meeting the requirements and work continues toward 100 percent compliance.



AOC staff preparing a retrofitted committee space.

Sustainable Purchasing, Design, Construction and Major Renovations

From construction and building materials, to equipment that generates large amounts of packaging, the AOC implements plans that address all stages of construction and major renovations within waste minimization strategies and green purchasing criteria.

A major component of the AOC's sustainability program is the production of technically specific guidance and plans to assist the AOC in achieving its commitments. The AOC's *Design Guide* and

its *Sustainable Guidelines and Resource Guide* are manuals that provide high standards for construction and renovation efforts. To keep up with state-of-the-art technologies and practices, both are regularly reviewed and updated.

The *Design Guide* includes sustainable design and resource conservation strategies and the consideration of environmentally preferable products to improve overall environmental performance and help meet the requirements of the Guiding Principles. It also requires AOC projects, to the extent practicable, to adhere to the US Green Building Council's Leadership in Energy and Environmental Design (LEED™) principles.

In addition, the AOC is striving to ensure that all newly constructed buildings are designed to perform 30 percent better than the ASHRAE 90.1-2011 standard, a federally mandated benchmark. The ASHRAE 90.1 standard is recognized as a benchmark for commercial building energy codes in the U.S. and around the world.

The *Sustainable Guidelines and Resource Guide* focuses on small projects and daily construction and renovation activities. The document provides information and reference tools available related to sustainable and high-performance design.



Entrance to the Cannon House Office Building.

Improvement Projects

In 1908, the AOC constructed the Cannon House Office Building. Today, it continues to support the work of the legislative branch of the government and serves as a destination for thousands of visitors.

The AOC's Capital Improvements Plan identifies opportunities to preserve our historical assets by addressing deferred maintenance and capital renewal needs. As one of the oldest congressional offices, the Cannon House Office Building is in need of a complete renewal. This renewal project balances preservation priorities with the AOC's environmental performance and space utilization goals. Sustainable design strategies include reconstruction of the fifth floor, installation of a green space atop an existing parking garage and treatment of the historic envelope and high ceilings with generous daylight and views. Once complete, the Cannon Building will use 30 percent less energy than its current operations.



U.S. Botanic Garden employee collecting material to compost.

Recycling and Waste Diversion

The Capitol campus produces materials that enter and exit our buildings and can have a significant impact on the environmental performance of the agency. The AOC champions a recycling program that aims to reduce, reuse and recycle non-hazardous materials on campus.

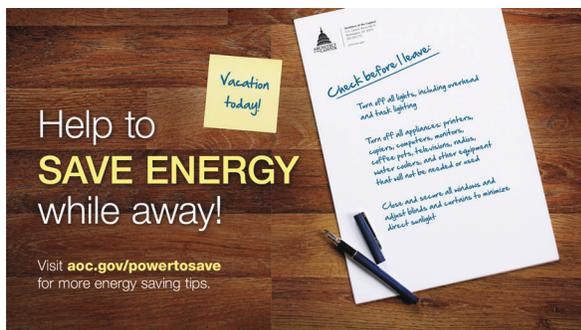
The AOC's recycling group works to optimize and, ultimately, reduce the flow of materials. The team tracks waste metrics across the campus in order to benchmark the agency against its year-end goals with new strategies for increasing waste diversion through user education and participation.

Representing this group are members from the House and Senate Office Buildings, U.S. Capitol, the U.S. Supreme Court, U.S. Botanic Garden, Capitol Grounds, Capitol Power Plant, the Library of Congress, the AOC's Construction Division, the AOC's Office of Safety, Fire Protection and Environmental Programs, the Office of the Attending Physician, the AOC's Library Buildings and Grounds and the AOC's Office of Security Programs.

Recycling and Waste Diversion Highlights:

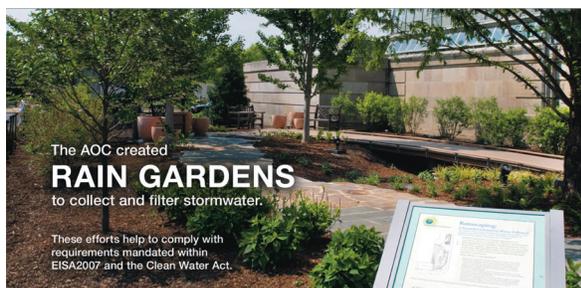
- Goal: divert at least 40 percent of building occupant waste by the end of FY 2016. The overall FY 2014 recycling rate was 39 percent.
- Goal: divert at least 80 percent of construction and demolition debris by the end of FY 2016. The overall FY 2014 recycling rate was 83 percent.
- Goal: divert 90 percent of non-recyclable, building occupant waste for waste-to-energy by the end of FY 2016. The overall FY 2014 diversion rate for waste-to-energy was 90 percent.

The AOC does not include waste-to-energy metrics in its recycling totals. In making this determination, the agency relies on guidance in Executive Order 13514 (Federal Leadership in Environmental, Energy, and Economic Performance) and the U.S. Environmental Protection Agency. Waste-to-energy is designed to complement rather than compete with ongoing, robust recycling programs.



Outreach and Awareness

The AOC takes every opportunity to communicate with its staff and clients about its efforts to save energy and meet its sustainability goals. The AOC's "Power to Save" program educates staff and congressional employees about sustainability and environmental stewardship.



In FY 2014, the agency conducted educational showcases and campaigns to encourage staff to turn off electronics and office equipment across the Capitol campus. By communicating and reinforcing key concepts, "Power to Save" increases energy and resource awareness while motivating action on sustainability and legislative goals.

Examples of outreach and awareness efforts.



Architect of the Capitol Stephen Ayers addresses the League of American Bicyclists on Capitol Hill.

Outreach efforts in FY 2014 also included a new biking program to create and sustain a bicycle-friendly environment on Capitol Hill. The bike team is composed of enthusiasts from across the campus. One of the program's major goals is to earn the AOC recognition as a bicycle-friendly business by the end of FY 2015. In doing so, the team intends to submit an application to the League of American Bicyclists to evaluate the AOC's performance in five categories – engineering, education, encouragement, enforcement, evaluation and planning. Recent accomplishments toward meeting the League's requirements include the installation of self-service repair stations, new educational sessions available to all of the agency's 2,300 employees, coordinating neighborhood bike rides and national challenges and disseminating information to staff and occupants related to bike rack availabilities, showers and bike routes.

Outreach and awareness efforts in FY 2015 will include energy challenges, continued expansion of the biking program, brainstorm teaming sessions and educational webinars to drive new and innovative energy and sustainability ideas from within the agency.



A bird's eye view of the AOC campus jurisdictions.

Jurisdiction Highlights

A COLLABORATIVE APPROACH

Sustaining the AOC's Success

The AOC has nine jurisdictions – the U.S. Capitol, Senate Office Buildings, House Office Buildings, Library Buildings and Grounds, U.S. Botanic Garden, Capitol Grounds, Office of Security Programs, Capitol Power Plant and the U.S. Supreme Court - each is responsible for supporting the AOC's engineering, safety, energy, construction, preservation and business needs.

AOC jurisdictions are critical to the success of the agency's sustainability and energy goals because of their on-the-ground access to stakeholders, staff, processes and building systems. Each of the nine jurisdictions requires a dedicated team to meet distinct requirements for operations, services and preservation. The teams collaborate with the Sustainability and Energy Division to determine building and site level commitments which support the agency's overall goals.

In FY 2014, the Hart Senate Office Building and U.S. Supreme Court achieved the greatest energy reductions of the AOC's office buildings, respectively reducing their energy use 20 and 18 percent from the previous fiscal year. The efforts of the Senate and U.S. Supreme Court jurisdictions equaled a 1.5 percent energy reduction to the AOC's overall annual energy use, with more than 48,018 MMBtus saved. The value of those savings equals \$960,000.

Below are highlights of these efforts as well as the initiatives of the other seven jurisdictions.

Hart Senate Office Building

In 2013, the Senate jurisdiction completed a \$43 million Energy Savings Performance Contract (ESPC) to implement energy conservation measures and allow the facility teams to reshape the operational framework of its buildings. The modernization addressed degraded mechanical and electrical equipment that used excessive energy and had the potential to cause severe operational interruptions. The ESPC investments included an upgrade of existing building automation controls for Heating, Ventilation and Air Conditioning (HVAC), and an extensive expansion of the lighting control system. Additionally, the jurisdiction retrofitted existing light fixtures with high-efficiency lamps, ballasts, controls and reflectors, as well as installed LED lighting technology in hearing rooms and a parking garage.

FIGURE 7: HART SENATE OFFICE BUILDING ENERGY USE FY 2013 AND FY 2014

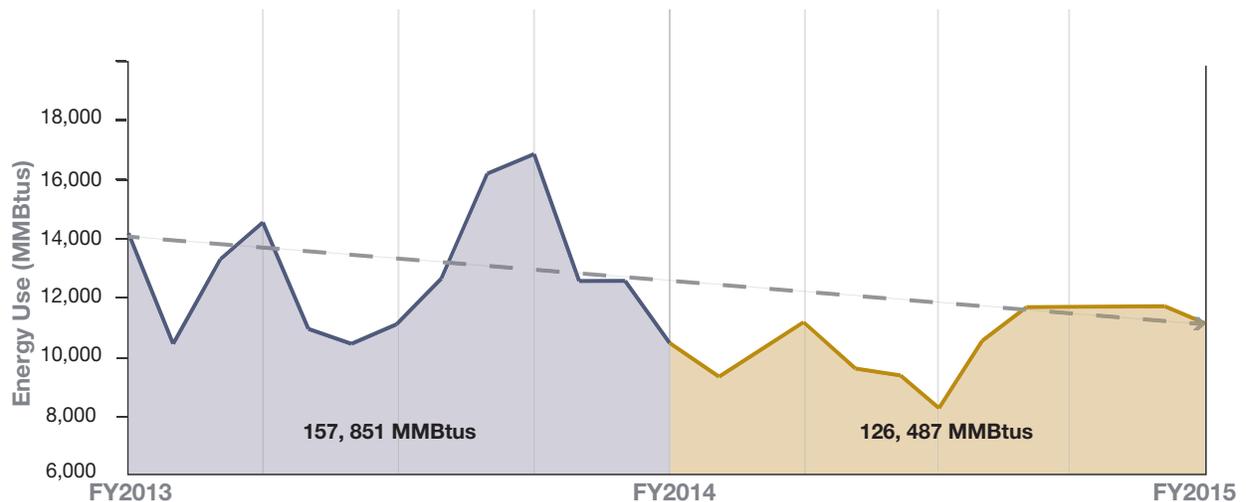


Figure 7 above shows a 20 percent energy performance improvement from FY 2013 through the end of FY 2014.



Hart Building operations and ESPC team.

This mix of contract and in-house energy conservation measures provided a new selection of equipment capable of saving energy while providing updated systems to support increases in customer service levels.

By FY 2014, the work was complete and the Hart Building team started a critical performance phase that focused on operating procedures designed to sustain the energy savings made possible through the energy conservation measure installations.

The Senate jurisdiction focused on training operations staff to use the new systems and equipment to produce the anticipated savings, increase occupant comfort and find additional savings opportunities. As a result of these efforts, the Hart Building was a key contributor to the AOC's overall energy reduction achievements in FY 2014. Their efforts demonstrated practices that conserved resources at the best value for the government.





U.S. Supreme Court operations team.

U.S. Supreme Court

The U.S. Supreme Court jurisdiction continued the multi-phase modernization of its digital building control system to improve energy performance. The system focuses on remote reporting, trending and scheduling of mechanical equipment; a process that helps to identify building inefficiencies and allows teams to proactively react to inadequate mechanical systems through a form of commissioning. Using the building control system, the jurisdiction team can focus on irregularities and performance problems for numerous building systems.

Beginning in FY 2014, the Supreme Court jurisdiction used the control system to pinpoint equipment issues that were causing the building to consume more energy than expected. From there, the jurisdiction advanced a world-class maintenance program by initiating a retro-commissioning process of its HVAC units and controls. Retro-commissioning can vastly improve building performance by optimizing existing mechanical systems and addressing problems that develop throughout the building's life. Substantial energy savings can be driven through efficient operations and retro-commissioning efforts.

The retro-commissioning process began as a survey of all air handling unit sequences and operation strategies to ensure the units were operating as designed. The survey report yielded over 140 items that needed attention. In response, the jurisdiction mechanical shops replaced sensors and addressed logic and programming issues to ensure the units were operating both as designed and efficiently. The team fine-tuned its facilities management through smart actions on mechanical settings during periods of high energy consumption and by eliminating

FIGURE 8: UNITED STATES SUPREME COURT ENERGY USE FY 2013 AND FY 2014

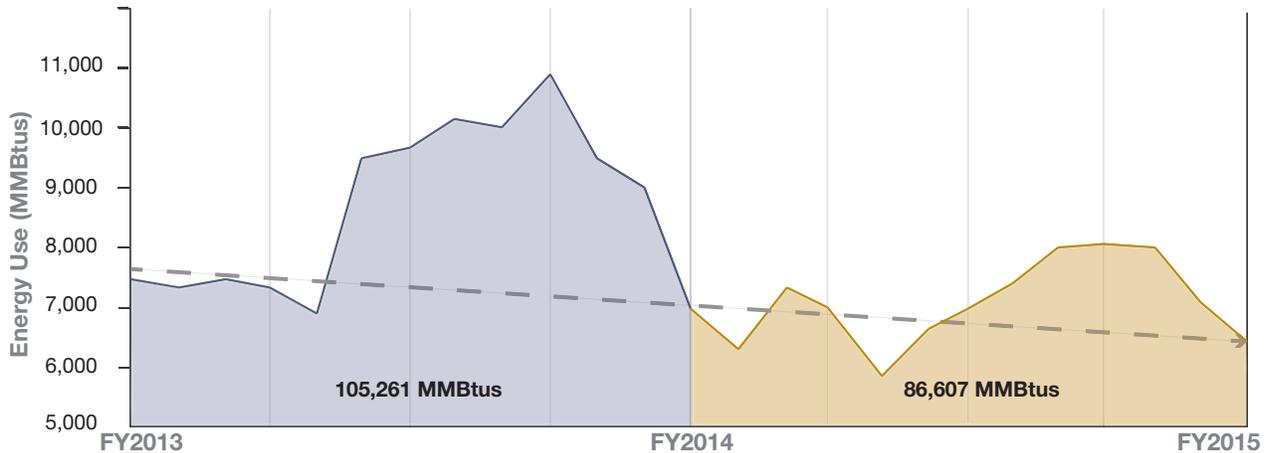


Figure 8 above shows an 18 percent energy performance improvement from FY 2013 through the end of FY 2014.

inefficient operations. By the end of the fiscal year, the building control system and retro-commissioning process helped the U.S. Supreme Court jurisdiction develop efficient best practices for continued operations.

In addition to the maintenance effort, the jurisdiction also completed a number of lighting retrofits. The electric shop focused on T12 to T8 fluorescent conversions throughout the building, MR16 halogens to LED conversions in the Lower Great Hall and LED conversion for the library chandeliers.

A total of 264 (100-watt) incandescent chandelier lamps were retrofitted to 13.5-watt LED lamps in the U.S. Supreme Court Library. While original lamps consumed approximately 23,700 watts, the new lamps give off an equivalent amount of light but require only 6 percent (1,400 watts) of the energy. The retrofits achieved a 17 fold reduction in energy consumption, a savings of 22,300 watts. The facility team took action to improve their efficiency. As a result, the U.S. Supreme Court Building saw an 18 percent energy performance improvement from the previous fiscal year.

Looking Ahead

These efforts in FY 2014 resulted in substantial performance improvements. Looking ahead, AOC teams intend to maintain their momentum, to continue to improve performance by identifying new energy savings opportunities and engaging with the AOC's occupants and staff towards success in meeting the AOC's final FY 2015 goal. Collaboration across jurisdictions will continue to be a priority for the agency.



Jurisdiction Highlights Across the Capitol Complex



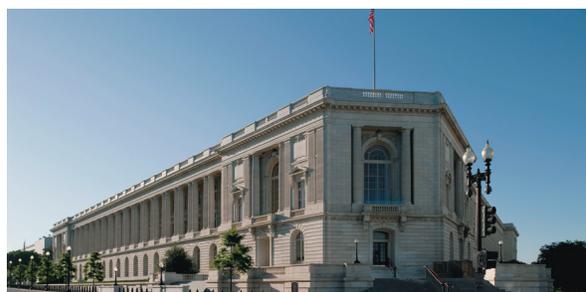
U.S. CAPITOL BUILDING AND CAPITOL VISITOR CENTER

The Capitol jurisdiction is responsible for the maintenance, care and stewardship of the U.S. Capitol. The Capitol Visitor Center is the main visitor entrance to the U.S. Capitol and houses informational exhibits, a restaurant, two orientation theaters, a large auditorium and gift shops.

Preservation. The Capitol initiated two high-profile preservation projects, including the multi-year Dome Restoration Project.

The jurisdiction also initiated the Exterior Stone and Metal Preservation project to stabilize, repair, clean and preserve the Olmsted Terrace walls.

Energy Conservation. The Capitol integrated into the AOC Building Automation System Network (BASnet), a new direct digital control system for monitoring energy usage.



HOUSE OFFICE BUILDINGS

The House jurisdiction is responsible for the support and maintenance of the facilities for the members of the U.S. House of Representatives.

Energy Conservation. The House jurisdiction is a key contributor to the AOC's energy management program. In the past five years, four buildings have reduced energy consumption by more than 20 percent. The majority of the savings were achieved through energy-efficient improvements in mechanical and electrical systems.

Preservation and Renewal. The AOC prepared for a top-to-bottom, phased building renewal of the Cannon House Office Building. The project includes stone preservation, roof replacement and installation of new Heating, Ventilation and Air Conditioning (HVAC), plumbing, fire and life-safety, accessibility, and structural improvements.



LIBRARY BUILDINGS AND GROUNDS

The jurisdiction is responsible for the maintenance, operations and care of the Library of Congress facilities and grounds.

Energy Conservation. During the past three years, the Library Buildings and Grounds (LBG) staff has implemented energy savings initiatives that reduced overall energy usage. The jurisdiction relied heavily on new technology including the utility metering enterprise system that incorporated the new utility meters. This system enabled the operations team to implement system changes and receive real time feedback on overall energy usage.

The energy reduction plan included: increased setbacks of non-essential lighting, escalators and elevators. Additionally, mechanical systems were evaluated and aggressive seasonal adjustments were implemented to reduce steam usage during summer months. Seasonal adjustments included weekend air handling unit shutdowns, domestic hot water curtailments, and secondary water systems reductions.

These changes were implemented with minimal impact to clients and collections. Digital control upgrades were implemented on several Air Handling Units (AHU) and a construction contract was awarded to upgrade four additional AHUs in the John Adams Building. The overall program reduced LBG's electrical utility cost by \$780,000 per year.

A More Efficient Packard Campus. The LBG reduced annual fuel oil consumption for boiler operations at the Packard Campus by more than 23,000 gallons per year. The savings were realized by a reconfiguration of boiler operations. These modifications increased the operating efficiency and also reduced maintenance requirements.



U.S. CAPITOL GROUNDS

The U.S. Capitol Grounds is responsible for preserving and maintaining 286 acres of landscape and infrastructure across Capitol Hill, including Union Square, the 12-acre site situated between the Capitol's West Front and the National Mall.

Preservation. U.S. Capitol Grounds completed a Cultural Landscape Report for the Senate Parks and continued work on the Cultural Landscape Report for Union Square. Both serve as valuable long-term planning tools for ongoing landscape maintenance and future development.

The jurisdiction also completed a maintenance and restoration project for the historic bronze Olmsted Fountains using a laser cleaning process—the first time this process had been used on Capitol Grounds.



OFFICE OF SECURITY PROGRAMS

The Office of Security Programs is responsible for the maintenance, care and operations of the U.S. Capitol Police buildings and grounds.

Energy Conservation. The jurisdiction is replacing the Alternate Computer Facility computer room air conditioner. The new unit and its backup will provide the proper cooling to fully protect the uninterrupted power supply systems and electrical switchgear. The new units use 30 percent less electricity and provide critical redundancy.

The jurisdiction also began installing a building controls system at the U.S. Capitol Police Headquarters to reduce energy through better monitoring and system operation. When complete, the project will improve client comfort and reduce the facility's energy use by 15 percent.

LEED Certification. The Office of Security Programs achieved a Leadership in Energy and Environmental Design (LEED) Gold certification for existing building operations at the U.S. Capitol Police K-9 facility.



U.S. BOTANIC GARDEN

The U.S. Botanic Garden (USBG) jurisdiction is responsible for the maintenance, operations and care of the USBG, support facilities, the National Garden, Bartholdi Park, and USBG's heritage and other plant collections.

Energy Conservation. The USBG now has a full staff in its Operations Division to tackle additional projects. The team heightened its efforts to identify potential energy savings. In the past year, the jurisdiction reassessed its steam distribution and condensate return systems to identify areas where it could improve the efficiency while still meeting mission requirements.

During annual fall steam trap maintenance, the USBG identified issues and corrected them before the heating season.

The Operations Division is creating insulated fan covers for use during extreme weather days at the Production Facility by adapting an idea presented by its Horticulture Division.

The USBG also continues to improve the lighting systems throughout the Conservatory, Production Facility and Administration Building. Setbacks have been instituted throughout the non-greenhouse areas of the USBG.



U.S. CAPITOL POWER PLANT

The U.S. Capitol Power Plant is responsible for maintaining and operating the Capitol Power Plant (CPP), which provides steam and chilled water to heat and cool the U.S. Capitol and 22 other facilities.

Energy-Savings Projects Completed. The CPP continues to play an essential role in the AOC's long-term energy conservation efforts. The AOC is currently working with local utility providers to plan the installation of an energy-efficient cogeneration system. These initiatives will generate heavy construction at the CPP. Also, this work involves specialized industrial equipment that must be installed and connected to critical operations equipment and systems so as not to negatively impact the delivery of steam and chilled water to the U.S. Capitol. The AOC must provide for third-party review and commissioning services for this project, to ensure efficient and proper operation.

The jurisdiction achieved significant energy savings with the installation of the first two phases of the Refrigeration Plant Revitalization (RPR) program to improve chilled water production efficiency. The jurisdiction also added an additional heat exchanger, expanding the free cooling system's capacity by 35 percent, and installed two new variable speed feed water pumps to significantly improve steam system efficiency.



U.S. SUPREME COURT BUILDINGS AND GROUNDS

The U.S. Supreme Court is responsible for the operations and maintenance of the Supreme Court Building and the Thurgood Marshall Federal Judiciary Building.

Resource Conservation. The AOC introduced a recycling program at the U.S. Supreme Court Building and Grounds in March 2014, and now recycles paper, cans, bottles, scrap metal, precious metals, batteries and e-waste.



SENATE OFFICE BUILDINGS

The Senate jurisdiction is responsible for the support and maintenance of the facilities supporting the office and committee space for U.S. senators and their staff.

Building Optimization. The jurisdiction continues to make significant infrastructure improvements. Teams are replacing nine air handling units and associated mechanical and electrical systems in the Dirksen Senate Office Building.



Senate Office Building staff review project opportunities.

Financial Highlights

EVALUATING ENERGY AND SUSTAINABILITY INVESTMENTS

10 Years of Cost Savings

The most impactful energy conservation efforts include infrastructure and performance improvements at the U.S. Capitol Power Plant and building improvements made during Energy Savings Performance Contract (ESPC) efforts across the Capitol campus.

Capitol Power Plant projects continue to generate ongoing savings. The current Refrigeration Plant Revitalization program and the completed West Refrigeration Plant Expansion project enable the Capitol Power Plant to more efficiently produce chilled water for air conditioning. These efficiency improvements translate into financial savings as less electricity is needed to provide the campus cooling needs. Through the ESPC program, \$90 million in investments were made, nearly as much funding as is annually appropriated for major renovation work (the AOC's Line Item Construction Program is approximately \$100 million per year). The ESPCs provided half of the energy savings seen to date.

The AOC enhanced its buildings and infrastructure over the past ten years. Now building and plant operators have the tools and data to leverage and improve customer service while saving additional resources. By improving the information available, the AOC makes quicker decisions

surrounding energy conservation. One example of using new data tools, is the thousands of devices deployed throughout the Capitol complex to provide real-time space temperatures. HVAC staff takes this information to proactively monitor conditions to increase customer satisfaction while also saving energy. When the spaces are unoccupied, these sensors enable substantial energy reductions.

A second example is when the AOC uses utility meter data to monitor and shed peak electricity loads on the hottest days of the year. This helps reduce demand ratchet charges, a major component of electricity costs. In the Capitol Power Plant, the operators analyze real-time efficiency data to better operate the campus air conditioning needs. These decisions have significant financial impacts as one large chiller in the power plant uses the same amount of electricity as the fully occupied Rayburn House Office Building. Delaying the start-up of an additional chiller for an hour or two translates into dramatic energy and fiscal savings. During winter, the Capitol Power Plant implements a free-cooling process which dramatically reduces the electricity necessary to produce the chilled water. During these periods we turn off a large chiller and use outdoor air to provide “free” cooling capacity. This free chilled water is used to cool spaces such as data centers, which require year round air conditioning.

FIGURE 9: MAJOR SOURCES OF COST SAVINGS FY 2014 ENERGY BREAKOUT

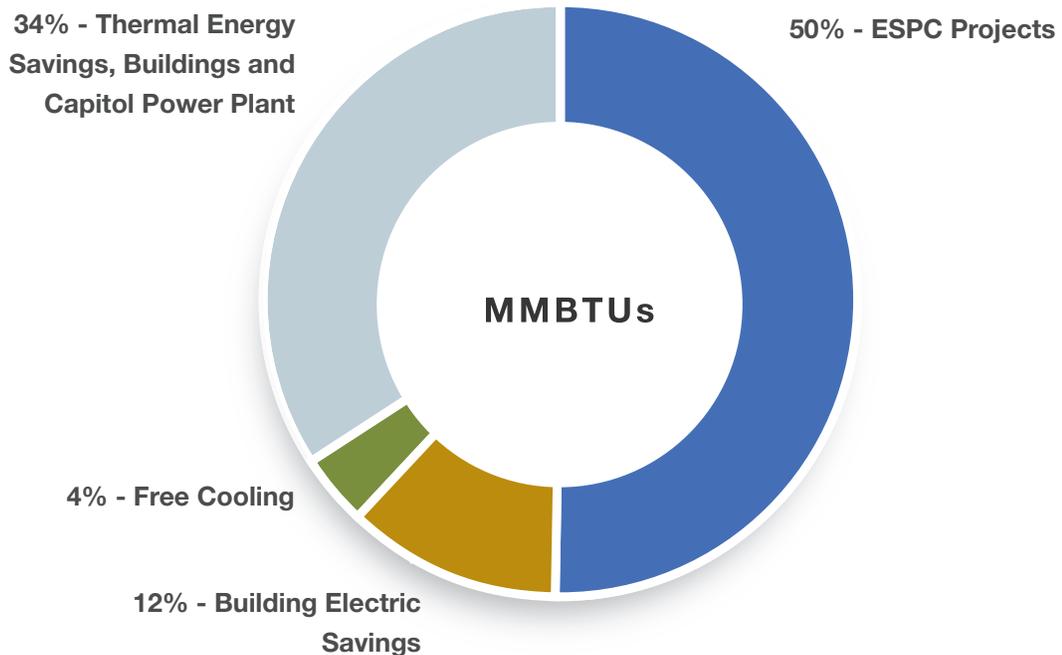


Figure 9 shows the FY 2014 breakout of sources for energy savings. These energy savings translate to an annual cost avoidance of more than \$14 million.



The savings resulting from energy conservation efforts are substantial - the annual cost avoidance for FY 2014 from a 25.5 percent energy reduction is more than \$14 million.

Figure 9 displays major sources of cost savings for FY 2014. The chart shows the AOC's key savings accomplishments derived from energy conservation actions, efficient operations and major energy upgrades through performance projects.



Energy Savings Performance Contracts (ESPCs)

ESPCs are a good deal for the government provided that they are analyzed and managed using best practices. As with all its projects, the AOC examines the details of proposed ESPCs and performs a payback assessment prior to undertaking any energy projects. In addition, by statute, the savings from ESPCs must be guaranteed by the Energy Service Company, and exceed payments in each year of the contract.

The safeguard on the guarantee is that the Energy Service Companies must conduct measurement and verification of the savings in compliance with the Department of Energy's Federal Energy Management Program application of the International Performance Measurement and Verification Protocol. This measurement and validation process provides an annual outside analysis of the systems to ensure the AOC is operating and maintaining them properly to maximize energy savings.



Energy savings projects across the Capitol campus.

In addition, because these projects are fully financed by the Energy Service Companies, the AOC is able to achieve energy conservation savings without significant appropriations. This allows funds to be used for other priorities, such as deferred maintenance or life-safety.

Energy savings, project cost, interest rates and utility rates are all important factors for an ESPC. To evaluate these, the AOC benchmarked against executive branch agencies to draw from their lessons learned. The AOC also relied on the information provided in Government Accountability Office reports and Department of Energy information to establish a set of internal controls and procedures for ESPC projects.

As such the AOC had independent consultants provide financial analysis and utility rate analysis during contract negotiation. The AOC dedicates substantial staff effort to closely monitor the measurement and verification confirmation process.





A view of the Capitol Rotunda under preservation repair.

Looking Ahead

EXPECTED PERFORMANCE RESULTS: OUR VISION FOR THE FINAL YEAR

Toward the Final Goal

Through the agency's robust sustainability program, choices in how we care for the buildings on Capitol Hill are made with sustainability, energy and preservation in mind. The AOC's mission is to preserve in a manner that uses resources wisely while ensuring the resilient strength and preservation of our historic treasures for years to come.

FY 2015 Energy Forecast

The AOC's year end reports continue to illustrate that the AOC's commitment to achieve the EISA 2007 mandate and meet a 30 percent energy reduction by the end of FY 2015 drives positive, long-term investments. In FY 2015, the AOC will take advantage of new, performance monitoring software that dives into real-time data and allows energy managers to immediately identify operational issues. In addition, the AOC intends to focus on continued reductions in energy from building operational strategies and improvements in plant production efficiencies. These efforts, combined with a robust training program, allows AOC staff to effectively meet goals and drive further energy savings.

Additionally, the AOC continues to take advantage of investments made possible by the completed ESPC projects. Through these contracts, the AOC is making significant upgrades to its infrastructure with minimal up-front capital investment. Now complete, an additional benefit is derived from the annual maintenance and verification process in which the contractor guarantees the savings and performs inspections to review the energy performance improvements. The ESPC best practices and contractual requirements require annual energy evaluations to confirm the projects' energy savings and subsequent payback.

FY 2015 Sustainability Initiatives

The AOC continues to update its goals and initiatives to ensure that it remains a leader among federal agencies for sustainability and energy initiatives. This includes continued incorporation of sustainable practices into its purchasing, design and construction decisions.

The AOC continues to use the U.S. Green Building Council's LEED for Existing Buildings rating system and the Guiding Principles for High Performing Sustainable Buildings as best practice mechanisms for its building design, construction and operation processes.

In FY 2015, the agency plans to renew its focus on water reductions and a sustainable roadmap for site initiatives. Lastly, the AOC is always working to further engage staff, occupants and visitors in opportunities to help reduce the Capitol campus' environmental footprint.

FIGURE 10: ANNUAL ENERGY REDUCTIONS LOOKING AHEAD TO FY 2015

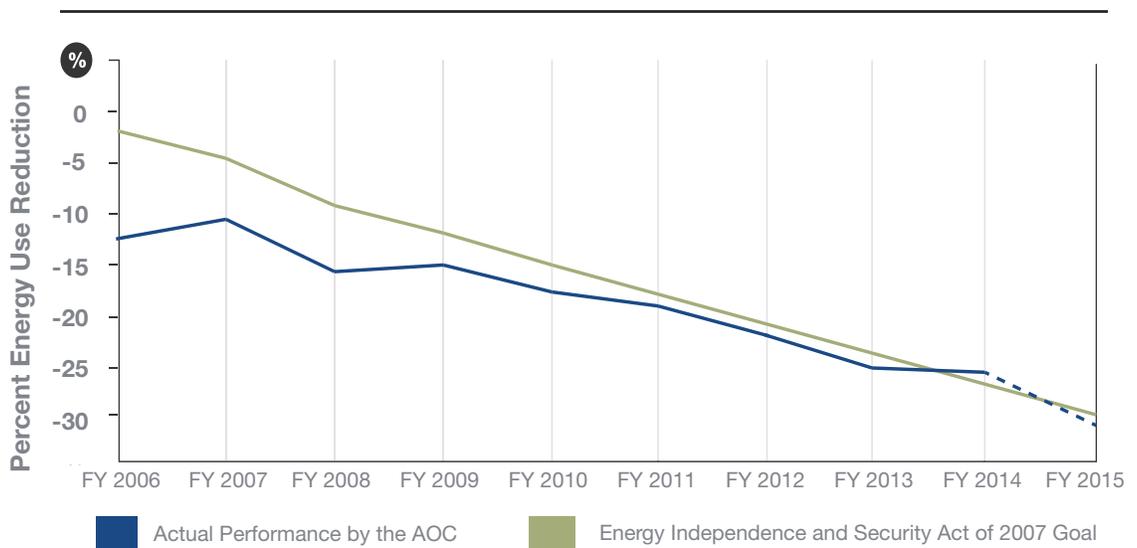


Figure 10 illustrates the AOC's energy performance numbers toward the EISA 2007 goal from FY 2005 to FY 2015. The law requires a reduction of three percent in energy consumption every year from the FY 2003 baseline with a total of 30 percent by FY 2015.





Section 3: Data Tables

The following performance charts were created to provide a summary of the AOC's progress in meeting the requirements under the Energy Policy Act of 2005 (EPA2005) and the Energy Independence and Security Act of 2007 (EISA2007).

FY 2014 ENERGY MANAGEMENT PERFORMANCE REPORT

GOAL PERFORMANCE				
Energy Management Requirement	FY 2003 Btu/GSF	FY 2014 Btu/GSF	Percent Change FY 2003 - 2014	FY 2014 Goal Target
Reduction in Energy Intensity in Facilities Subject to the EPA2005 Goals	172,678	128,631	-25.5%	-27.0%
Renewable Energy Requirement	Renewable Electricity Use (MWH)	Total Electricity Use (MWH)	Percentage	FY 2012 Goal Target
Eligible Renewable Electricity Use as a Percentage of Total Electricity Use	70,514.7	313,381.0	25.5%	7.5%
Water Intensity Reduction Goal	FY 2007 Gallon/GSF	FY 2014 Gallon/GSF	Percent Change FY 2003 - 2014	FY 2014 Goal Target (AOC Internal Metric)
Reduction in Potable Water Consumption Intensity	28.2	23.6	-16.4%	-15%
Metering of Electricity Use	Cumulative # of Buildings Metered	Cumulative % of Electricity Metered	Cumulative % of Appropriate Buildings Metered	FY 2014 Goal Target
Standard Electricity Meters in FY 2014	42	15.0%	64.6%	Met
Advanced Electricity Meters in FY 2014	23	85.0%	35.4%	Met
Total Electricity Meters in FY 2014	65	100.0%	100.0%	100.0% (Met)
Federal Building Energy Efficiency Standards			Percent of New Building Designs	FY 2007 Forward Goal Target
Percent of New Building Designs Started Since Beginning of FY 2007 That are 30 Percent More Energy Efficient Than Relevant Code, Where Life-Cycle Cost Effective:			100%	100%
INVESTMENTS IN ENERGY AND WATER MANAGEMENT				
Sources of Investment	Investment Value (Thou. \$)		Anticipated Annual Savings (Million Btu)	
Direct Obligations for Facility Energy Efficiency Improvements	\$1,742.00		27,000.0	
Investment Value of ESPC Task/Delivery Orders Awarded in Fiscal Year	\$0.0		0.0	
Investment Value of Utility Energy Service Contract Task/Delivery Orders Awarded in Fiscal Year	\$0.0		0.0	
Total	\$1,742.00		27,000.0	
			Percentage	
Total Investment as a Percentage of Total Facility Energy Costs			3.4%	
Financed (ESPC/Utility Energy Service Contract) Investment as a Percentage of Total Facility Energy Costs			0.0%	

FY 2014 ENERGY MANAGEMENT DATA REPORT

Part 1: Energy Consumption Data

EPAct GOAL SUBJECT BUILDINGS							
Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. \$)	Unit Cost (\$)	Unit of Measure	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)
Electricity	MWH	200,600.7	\$20,659.60	\$ 0.10	/kWh	684.4	2,162.9
Fuel Oil	Thou. Gal.	139.9	\$399.80	\$2.86	/Gallon	19.6	19.6
Natural Gas	Thou. Cubic Ft.	1,238,258.4	\$14,758.00	\$11.92	/Thou Cu Ft.	1,238.3	1,295.2
Coal	S. Ton	1,834.0	\$577.80	\$ 315.04	/S. Ton	51.4	51.4
Purch. Steam	BBtu	18.7	\$689.6	\$36.94	/MMBtu	18.7	42.9
Purch. Chilled Water	BBtu	6.7	\$ 730.30	\$57.24	/ MMBtu	6.7	8.6
Excluded Steam (-)	BBtu	(178.7)	\$ (6,007.30)	\$ 33.61	/ MMBtu	(178.7)	(241.3)
Excl. Chilled Water (-)	BBtu	(38.4)	\$(639.60)	\$ 16.67	/ MMBtu	(38.4)	(49.1)
Excluded Security (-)	MWH	(6,740.9)	\$(694.20)	\$ 0.10	/kWh	(23.0)	(72.7)
Purch. Renew Electric.	MWH	70,514.70	\$7,562.20	\$0.11	/kWh	240.6	0.0
Purch. Renew. Other	BBtu	0.0	\$ -	\$ -	/ MMBtu	0.0	0.0
		Total Costs:	\$38,036.20		Total:	2,019.50	3,217.5
FY 2014 Goal Subject Buildings Gross Square Feet (Thousands)		15,700.3			Btu/GSF:	128,631	204,932
Goal Subject Buildings FY 2003 Baseline (Btu/GSF)		172,693					

EPAct GOAL EXCLUDED BUILDINGS							
Energy Type	Consumption Units	Annual Consumption	Annual Cost (Thou. \$)	Unit Cost (\$)	Unit of Measure	Site-Delivered Btu (Billion)	Est. Source Btu (Billion)
Electricity	MWH	42,265.6	\$4,352.90	\$ 0.10	/kWh	144.2	455.7
Fuel Oil	Thou. Gal.	430.6	\$ 1,230.30	\$ 2.86	/gallon	60.3	60.3
Natural Gas	Thou. Cubic Ft.	34,598.9	\$ 412.402	\$ 11.92	/Thou Cu Ft.	34.60	36.2
Coal	S. Ton	0.0	\$ -	\$ -	/S. Ton	0.0	0.0
Purch. Steam	BBtu	0.0	\$ -	\$ -	/MMBtu	0.0	0.0
Purch. Chilled Water	BBtu	0.0	\$ -	\$ -	/ MMBtu	0.0	0.0
Excluded Steam (-)	BBtu	178.7	\$ 6,007.30	\$ 33.61	/ MMBtu	178.7	241.3
Excl. Chilled Water (-)	BBtu	38.4	\$ 639.60	\$ 16.67	/ MMBtu	38.4	49.1
Excluded Security (-)	MWH	6740.9	\$694.20	\$ 0.10	/kWh	23.0	72.7
Purch. Renew Electric.	MWH	0.0	\$ -	\$ -	/kWh	0.0	0.0
Purch. Renew. Other	BBtu	0.0	\$ -	\$ -	/ MMBtu	0.0	0.0
		Total Costs:	\$ 13,336.7		Total:	479.2	915.3
FY 2014 Goal Subject Buildings Gross Square Feet (Thousands)		1,083.3			Btu/GSF:	442,340	844,863
Goal Excluded Subject Buildings FY 2003 Baseline (Btu/GSF)		121,847					

ALL RENEWABLE ENERGY USE (INCLUDING NON-ELECTRIC) AS A PERCENTAGE OF FACILITY ELECTRICITY USE		
All Renewable Energy Use (Billion Btu)	Total Facility Electricity Use (Billion Btu)	RE as a Percentage of Energy Use
70,514.7	313,381.0	22.5%

Part 2: Water Consumption Data

WATER USE INTENSITY AND COST				
Potable Water	Annual Consumption (Million Gallons)	Annual Cost (Thou. \$)	Facility Gross Square Feet (Thou.)	Gallons per Gross Square Foot
Buildings & Facilities Water Usage	395.9	\$6,036.50	16,783.6	23.6
				Percent
Approx. Percentage of Reported Water Consumption that is Estimated:				70%

Part 3: Energy Efficiency Improvements

DIRECT AGENCY OBLIGATIONS				
	FY 2014		Projected FY 2015	
	(Million Btu)	(Thou. \$)	(Million Btu)	(Thou. \$)
Direct Obligations for Facility Energy Efficiency Improvements, Including Facility Surveys/Audits		\$1,742.00		\$2,300.00
Estimated Annual Savings Anticipated from Obligations	27,000.0	\$540.00	25,000.0	\$500.00

ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPC)		
	Annual Savings (Million Btu)	Task Orders/Savings (Number/Million \$)
Number of ESPC Task/Delivery Orders Awarded in Fiscal Year & Annual Energy (MMBTU) Savings	0	0
Investment Value of ESPC Task/Delivery Orders Awarded in Fiscal Year		\$0.0
Amount Privately Financed Under ESPC Task/Delivery Orders Awarded in Fiscal Year		\$0.0
Cumulative Guaranteed Cost Savings of ESPCs Awarded in Fiscal Year Relative to the Baseline Spending		\$0.0
Total Contract Award Value of ESPCs Awarded in Fiscal Year (Sum of Contractor Payments for Debt Repayment, M&V, and Other Negotiated Performance Period Services)		\$0.0
Total Payments Made to All ESPC Contractors in Fiscal Year		\$8.8



Architect of the Capitol

United States Capitol
Washington, DC 20515