



FEDERAL ENERGY
MANAGEMENT PROGRAM

YEAR IN REVIEW 2006



U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable

Federal Energy Management Program Year in Review 2006

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Cover photo: Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, California

The Molecular Foundry at LBNL is a state-of-the-art 6-story, 94,500 square foot facility that applies a whole-building efficiency approach and incorporates sustainable practices in siting, construction, operations, and maintenance. Water conservation strategies include native landscaping and efficient irrigation. Energy-saving features include advanced controls, daylighting combined with high efficiency lighting and windows, variable air volume fume hoods, and a premium efficiency chiller plant. Further energy savings are achieved through operations strategies such as scheduled filter replacements and an electromagnetic water treatment system. Estimated to use 35 percent less energy than a conventional building, this is the most comprehensive green building constructed in LBNL's 75-year history.

SCIENCE AND TECHNOLOGY FACILITY

NATIONAL RENEWABLE ENERGY LABORATORY

GOLDEN, COLORADO

NREL's Science and Technology Facility is a 71,000 square foot laboratory with a two-story design that reduces the building footprint and incorporates a more efficient HVAC system. The sustainable facility incorporates at least 20 percent of local or regional building materials. A storm water collection system, xeriscaping, and low-flow water fixtures reduce water consumption. The building design takes advantage of orientation, window placement, glazing specifications, and shading devices coupled with electric lighting and controls to incorporate 100 percent daylighting for ambient light in office areas and 50 percent in laboratories. A highly reflective roof, low-flow fume hoods, and efficient ventilation systems further help the building to achieve its Leadership in Energy and Environmental Design (LEED™) Platinum rating.





Introduction

During FY 2005, the Federal government reduced its energy intensity in standard buildings by almost 30 percent (29.6%) since 1985, and is on track to meet the 35 percent reduction goal for 2010. Each Federal agency, through its consistent efforts, has contributed toward this notable achievement; but much more work needs to be done to ensure Federal agencies meet the challenging goals presented by the Energy Policy Act of 2005.

Improving Federal energy performance is critical to ensuring a secure, reliable energy future for our Nation. America's prosperity and quality of life depend on an economy fueled by clean and efficient energy. Each Federal agency represents a different sector of the economy and each has a special role to play to ensure that energy and water resources are reliably available to sustain those sectors. It is up to the Federal government to lead by example and to ensure that energy resources remain affordable to all citizens and abundant for future generations.

The success of the Federal Energy Management Program (FEMP) and its agency partners in 2006 demonstrates a two-pronged approach to achieving energy security—one that is outlined in the President's energy policy:

- 1) the deployment of technologies that harness renewable, domestic sources of energy, and
- 2) extracting more value and productivity out of our conventional energy sources.

Recent developments in 2006 have made it increasingly clear that the future of our economy, environment, and global stability depends on increased energy security. Through FEMP's efforts and those of its partners, the nation can reduce reliance on overseas energy imports. For example, the Federal government used 13 trillion Btu of renewable energy last year. That is more than 18 times the amount the Federal government used just five years ago. This renewable energy use is equivalent to 6.9 percent of the Federal government's total electricity use, greatly surpassing the goal of 2.5 percent.

This "Year in Review" publication for 2006 outlines FEMP's achievements in four key areas: Financing, Technical Assistance, Policy Coordination, and Outreach. It also presents the 2006 winners of the Presidential Awards for Leadership in Federal Energy Management.

FEMP and other organizations have developed a wealth of resources to help energy managers and others find smart solutions to today's energy and water management challenges. Visit the FEMP Web site to find a wide range of materials—publications, software, and videos – to help obtain financing, design sustainable buildings, buy the most efficient products, and more. Visit www1.eere.energy.gov/femp. The U. S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE) also has many other programs underway to help America achieve a more secure energy future. Learn more about those programs at www.eere.energy.gov.

Technical Assistance



Federal Environmental Executive Edwin Piñero with representatives from most of the 19 Federal agencies that signed the Memorandum of Understanding on "Federal Leadership in High Performance and Sustainable Buildings."



TECHNICAL ASSISTANCE

In response to Hurricanes Katrina and Rita, President Bush issued a Memorandum on September 26, 2005 for agencies to take actions to conserve natural gas, electricity, gasoline, and diesel fuel. In rapid response, FEMP dispatched Energy Saving Expert Teams (ESETs) to sites directly affected by the hurricanes and other sites with a high potential for large natural gas savings. By January 31, 2006, teams conducted energy audits at 28 sites, focusing on natural gas opportunities and no-cost, low-cost energy savings measures. The audits identified an impressive potential natural gas savings of \$6.7 million annually, and an equally impressive potential electricity savings of \$3.6 million annually. A summary of early results reported by the sites visited showed that investments of \$795,279 resulted in annual energy cost savings of \$1,731,780.

On January 24, 2006, with a two-year foundation laid by FEMP's Interagency Sustainability Working Group (ISWG), 19 agencies attended the landmark "White House Summit on Federal Sustainable Buildings." The 19 agencies, which own and operate more than 90 percent of Federal office space, signed a Memorandum of Understanding (MOU) entitled Federal Leadership in High Performance and Sustainable Buildings. The first-of-its-kind MOU defines Guiding Principles and establishes concrete standards to set measurable goals to be tracked on Executive Management Scorecards.

FEMP continued its important work on advanced metering in 2006. FEMP published Guidelines to address the EAct 2005 requirement that all agencies

Marine Corps Base Camp Pendleton, California, installed more than 200 photovoltaic-powered streetlights and traffic beacons – one of the largest applications of solar lighting in the Federal government. The solar lighting project was originally initiated to improve visibility along a remote and dangerous stretch of road, and was later expanded to include overall base security and safety needs. The project avoided almost \$2 million necessary for grid-connected lighting, and the Base saves over \$66,000 per year in operating costs. Additionally, the project demonstrates the Base's commitment to renewable energy and improving air quality through the reduction of greenhouse gas emissions.

Technical Assistance



install standard or advanced meters by October 1, 2012. The Guidelines provide methodologies, cost components, templates, and reporting instructions that enable Federal buildings to better measure and manage energy use.

Three new technical documents were published by FEMP in 2006 to help federal energy managers meet new energy mandates. The first is a FEMP Technology Installation Review titled *Coolerado Cooler Helps Save Energy and Dollars*, that covers an innovative evaporative cooling technology. The second is a FEMP Technology Focus titled *Hybrid Solar Lighting Illuminates Energy Savings at Government Facilities* that focuses on hybrid solar lighting as an economically viable alternative to incandescent lamps. The third is titled *Strategic Energy and Water Resource Planning for Federal Facilities* and provides a detailed look at the strategic planning process for Federal sites and agencies.

RENEWABLE POWER

Several large and innovative renewable energy projects were completed in 2006 with FEMP's assistance. The Social Security Administration used a utility energy savings contract (UESC) with Commonwealth Edison to complete the installation of 528 roof-top solar panels at the Harold Washington Social Security Center in Chicago. The array offsets peak power usage and provides enough electricity to power 100 homes. The Federal Correctional Institution (FCI) Victorville used an Energy savings Performance Contracts (ESPC) with NORESKO, LLC, to install a 750 kilowatt wind turbine that saves more than 9 percent of annual electricity consumption. Hill Air Force Base constructed a two-mile landfill gas pipeline and a 1.2-megawatt on-site power generation facility using an ESPC through FEMP's Biomass and Alternative Methane Fuels program. Marine Corps Base Camp Pendleton, also using an ESPC, installed two large solar PV rooftop arrays and seven additional solar projects with a contract value of \$6.5 million.

Continuing to lead the way with innovative energy solutions, FEMP also assigned experts from the National Renewable Energy Laboratory to team with the U.S. Navy and U. S. Army to help develop a contractor owned and operated facility using promising Ocean Thermal Energy Conversion technology. Located in the Republic of Marshall Islands, the 7 MW plant, expected to cost between \$77 and \$105 million, will save 5.2 million gallons of diesel fuel each year, valued at \$15 million annually.



The Process and Environmental Technology Laboratory at Sandia National Laboratories, New Mexico, incorporates the latest environmentally sound and energy efficient technologies.



Innovator

YOU HAVE
the POWER

National Aeronautics and Space Administration
Federal Energy Management Program

For more information on how you can get involved in the
You Have the Power campaign, visit the EEMP Web site at www.energy.gov/eemp.

ENERGY SAVINGS PERFORMANCE CONTRACTS (ESPCs)

In 2006, DOE Assistant Secretary for Energy Efficiency and Renewable Energy Alexander Karsner launched the Federal government's Super Energy Savings Performance Contract "Blitz." The main purpose of the SuperESPC blitz was to ensure that the 26 Federal ESPC projects currently in the contracting pipeline were officially awarded by November 26, 2006. ESPCs, authorized by the Energy Policy Act of 2005 and earlier legislation, had previously lapsed in Congressional authority and had been recently reinstated in 2004. As a result, Federal agencies, after a brief but difficult hiatus, were once again using private sector funds to design, implement, and measure the performance of Federal facility energy projects.

Several major projects were completed in 2006 and many large contracts were awarded. In large part as a result of the SuperESPC blitz, the project count for ESPC Delivery Orders awarded increased dramatically from 9 in FY 2005 to 22 in 2006. The corresponding project investment increased from \$72 million in FY 2005 to \$164 million in FY 2006; and the guaranteed savings more than doubled from \$199 million to \$418 million.

UTILITY ENERGY SERVICE CONTRACTS (UESCS)

The Federal government is the nation's largest utility customer, spending more than \$5.8 billion annually. EAct 2005 and Executive Order 13423 require Federal agencies to reduce their energy consumption by 30 percent by 2015, relative to the FY 2003 baseline. While this may seem like a daunting figure, there are excellent examples as to how this can be achieved. In fact, to underscore the feasibility of this threshold, FEMP identified that 45 utilities were currently offering in excess of \$1 billion in rebates and incentives to Federal customers.

Maintenance engineer Joseph Horvath (left) of the Kennedy Space Center Energy Team used a utility energy services contract with Florida Power & Light to implement numerous energy modifications, including major retrofits of the area chiller complex. The project will result in annual energy savings of more than 8.4 million kWh and 168,000 therms of natural gas—enough to power more than 600 new Florida homes and save \$650,000. The project will also prevent more than 12 million pounds of carbon dioxide, 73,000 pounds of sulfur oxide, and 32,000 of nitrous oxide from entering the atmosphere each year.

Financing

In 2006, the United States Postal Service (USPS) continued to expand its private sector financing initiatives, especially in large states like Florida and California. As an example, USPS developed a number of large projects at multiple sites throughout the State of California to implement Postal Service Shared Energy Savings Contracts. The projects included renewable and efficiency improvements such as solar power, distributed generation, infrared heating, HVAC upgrades, lighting retrofits, and direct digital controls for energy management systems. With initial guidance and assistance from FEMP, USPS was able to leverage more than \$19.5 million in energy upgrades to its facilities, with annual savings of more than \$1.2 million. USPS also received \$4.5 million in public benefit financial incentives that were used to buy down the cost of these renewable and energy efficiency projects.

With the instability of energy supplies brought about by Hurricanes Katrina and Rita in 2006, FEMP also developed new modes of delivery, new models, and expanded services with a special emphasis on natural gas. For example, FEMP worked with the Energy Solutions Center of the American Gas Association, and focused efforts on natural gas at its semi-annual meeting hosted by Atlanta Gas & Light Co. FEMP expanded its efforts with outreach and education services working with partners like South Jersey Gas; and FEMP provided enhanced customer support for existing utility partners such as Virginia Natural Gas, Washington Gas, and Florida Power and Light.

FEMP also continued to develop its strategic plan with the Federal Utility Partnership Working Group (FUPWG) to increase the number of utilities offering UESCs, the number of Federal projects, and the scale of project investments. Of the 77 alternative financing projects awarded in 2006, 55 were UESCs.

YOU HAVE
the POWER™

United States Postal Service
Federal Energy Management Program

For more information on how you can get involved in the YOU HAVE the POWER campaign, visit the FEMP Web site at www.eem.energy.gov/femp

The U. S. Postal Service energy program includes champions who develop strong partnerships with the private sector. Dianne Shoaf planned and managed successful energy conservation projects in more than 200 buildings in Central Florida, where she and her team saved \$1.2 million in energy costs. Dianne also assisted in the development of shared energy savings contracts and supported other major initiatives to help the U. S. Postal Service reduce energy consumption and costs for customers and their communities.

Policy



In 2006, FEMP continued supporting the implementation of Federal energy management provisions of the Energy Policy Act of 2005. EPOA 2005 established new goals for reduction of energy intensity in Federal buildings and directed the Secretary of Energy to issue guidelines that establish criteria for excluding certain types of facilities from the goals. These guidelines were published by FEMP in January 2006 within the 180-day period specified in the law. These *Guidelines Establishing Criteria for Excluding Buildings* were developed through an interagency working group process under the auspices of the Federal Interagency Energy Management Task Force which subsequently concurred with the final product.

FEMP also issued guidelines to agencies pertaining to the new EPOA 2005 requirement for the metering of electricity use in all Federal buildings by October 1, 2012. FEMP met with representatives from the metering industry, the utility industry, energy services industry, energy efficiency industry, energy efficiency advocacy organizations, national laboratories, universities, and federal facility managers to develop the guidelines.

REPORTING ON ENERGY MANAGEMENT

During 2006, FEMP completed and published the *Annual Report to Congress on Federal Government Energy Management* for FY 2005, a key milestone year under Executive Order 13123. Some of the key findings from the Report follow.

- During FY 2005, the Federal government decreased the energy intensity of its standard buildings by 29.6 percent relative to FY 1985. Although the 30 percent reduction goal was narrowly missed for 2005, the Government remains on track to meet the 35 percent goal for 2010 since the path for this goal was a 28 percent

reduction for FY 2005. Eight agencies reduced energy use per gross square foot in standard buildings by more than 30 percent from 1985.

- The Government reduced the energy intensity of its industrial, laboratory, and other energy intensive facilities by 17.6 percent compared to FY 1990. Eight agencies achieved reductions greater than 20 percent compared to FY 1990, the goal established by Section 203 of Executive Order 13123.
- As a whole, the Government reported purchasing or producing 13 trillion Btu of new renewable energy in FY 2005, equivalent to 6.9 percent of the Federal Government's electricity use, and greatly surpassing the goal of 2.5 percent under Section 503 of Executive Order 13123. Ten agencies surpassed the goal of obtaining the equivalent of more than 2.5 percent of total electricity consumption from new renewable sources.
- Section 201 of the Executive Order established a greenhouse gas reduction goal of 30 percent by 2010 compared to such emissions levels in 1990. This goal applied to standard buildings as well as industrial, laboratory, and other energy-intensive facilities combined. In FY 2005, the Government achieved a reduction of 22.1 percent from 14.9 million metric tons of carbon equivalent (MTCE) in FY 1990 to 11.6 million MTCE in FY 2005.

FEMP also worked closely with the Office of Management and Budget during January and July of 2006 to assess agency performance toward energy management requirements and develop scorecards for each agency rating their status toward statutory and Executive Order goals and progress made on OMB and agency-designated action items. The scorecards were key discussion points at two meetings of agency Senior Energy Officials at the White House.



At the annual HHS energy awareness event Federal employees and visitors inspect new alternative fuel vehicles. Vehicles like these are being incorporated into Federal fleets.



Outreach



In FY 2006, through FEMP’s outreach messages and campaigns, Federal agencies worked to educate their employees about the benefits of using energy efficiency and renewable energy. Through FEMP programs, agencies make their staff aware of solutions that are readily available and actions that they can take as individuals to reduce energy use and cost. Agencies also honored outstanding efforts of Federal workers who put these important messages into practice, displaying hard work and resourcefulness to achieve important projects that furthered the Nation’s energy and water management goals.

RECOGNITION

On October 4, 2006, the Department of Energy held its annual Federal Energy and Water Management Awards ceremony at the National Press Club in Washington, D.C. Alexander K. Karsner, DOE Assistant Secretary for Energy Efficiency and Renewable Energy, delivered remarks along with guest speaker Bill Anderson, Assistant Secretary of the Air Force for Installations, Environment and Logistics. Together, they honored 17 individuals, small groups, and organizations for saving more than \$23 million dollars in energy

expenses at Federal facilities across the United States. In addition, four Federal buildings representing exceptional models of energy efficiency, innovation, and sustainable design were designated Federal Energy Saver Showcases.

The following day, on October 5, 2006, the White House honored five energy management teams from the Department of the Navy, U.S. Marine Corps, Social Security Administration, and U.S. Postal Service for their exemplary dedication and Federal leadership in energy efficiency and implementation of Executive order 13123. (Read more about these programs and honorees in the special awards section).

Twenty-one of the largest Federal agencies participate year-round in FEMP’s You Have the Power campaign to help reach their energy management goals by recognizing outstanding achievements and raising awareness. The campaign promotes “Energy Champions”– employees making extraordinary efforts to help their agencies save energy and money. Accomplishments are highlighted through campaign posters sent to regional offices around the nation. In FY 2006, 16 individuals were recognized, increasing the total number of Energy Champions to 420 since 1997. In addition, 14 agency sites developed posters featuring a showcase building or other important energy project for recognition during Earth Day and Energy Awareness Month. Visit the campaign Web site at: www.eere.energy.gov/femp/services/yhtp/index.html to view these and other posters from past years of the campaign.

AWARENESS

Energy managers, financial officers, and administrators received guidance on timely issues through the FEMP Web site at <http://www.eere.energy.gov/femp>. In FY 2006, there were more than 400,000 visits to the FEMP Web site, with visitors viewing an average of more than 4,000 pages each day. FEMP also produces a wide variety of print publications, thousands of which are distributed each year through the EERE Information

Center. Energy managers may call the Center toll free at 877-337-3463 to request copies of these publications or to get answers to questions about Federal energy management.

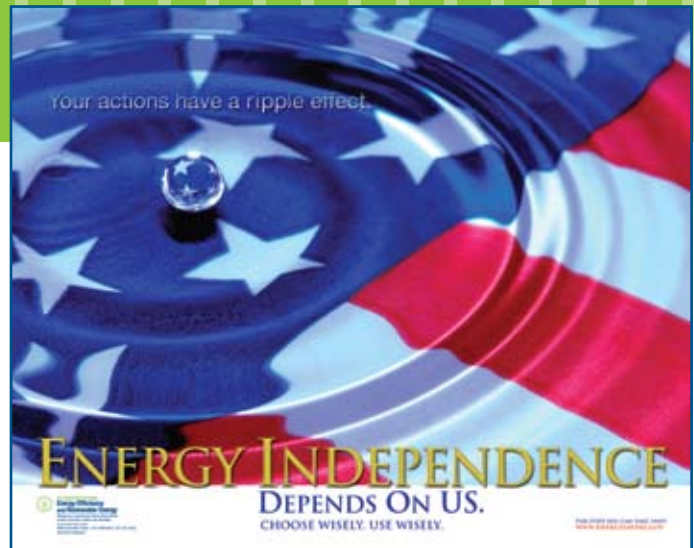
Federal agencies marked Earth Day and Energy Awareness Month by promoting energy efficiency and renewable energy through the distribution of posters and other awareness materials at local and regional events. FEMP's Earth Day poster showed that energy efficiency and renewable energy are a "good deal for everyone," saving money and resources today and ensuring clean, abundant energy supplies for tomorrow. Energy Awareness Month reminded every individual that "Energy Independence Depends on US," asking us to consider our own decisions and take energy-smart actions now to save money and resources for the future.

FEMP also uses FEMP Central, its internal program database, to send information about upcoming meetings and training workshops, as well as new publications, YHTP campaign updates, and awards information to thousands of energy management contacts. In FY 2006, FEMP added 900 new active contacts to the database.

ENERGY EXPO

Agencies participated in a number of Federal meetings, conferences, and expositions, to share success stories, promote partnerships, and honor achievements. FEMP sponsored or cosponsored 47 meetings, trainings, and workshops in FY 2006 with over 5,500 registrations tracked by FEMP Central.

FEMP's ninth annual premier energy conference, Energy 2006: Your Roadmap to Energy Efficiency and a Brighter Future, was held this August in Chicago, Illinois. The four-day event was cosponsored by the General Services Administration and the Department of Veterans Affairs. The exposition featured vendors exhibiting a wide spectrum of the latest innovative products and services. The 2007 annual workshop will be held August 5-7, 2007 in New Orleans, Louisiana.



2006 Energy Awareness Month Poster



Poster for the "Change a Light, Change the World" campaign composed of thousands of photographs submitted by the public, highlighting their energy-saving activities.

Presidential Awards For Leadership in Federal Energy Management

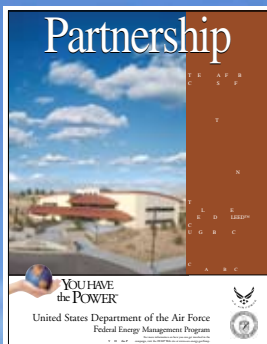
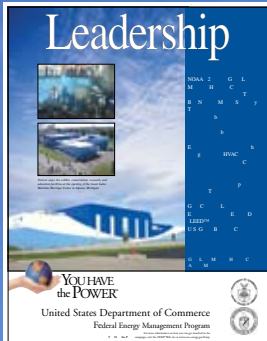
Now in its seventh year, the “Presidential Awards for Leadership in Federal Energy Management” represent the most prestigious awards given to Federal employees for excellence in the prudent management of energy and water resources. Recipients of this award represent the cream of the Federal energy manager crop, dedicated to developing the creative solutions needed to meet the challenge of maintaining the operations of Government while increasing our energy security.

The winners in 2006 represent the Department of the Navy, the U. S. Marine Corps, the Social Security Administration, and the United States Postal Service. Highlights of their accomplishments include:

- creative financing with the private sector to accomplish large-scale projects;
- implementation of leading-edge sustainable design principles;
- advanced metering and operating and maintenance strategies;
- highly-efficient and secure combined heat and power generating plants;
- renewable energy projects and installations; and
- extensive public outreach programs.

The combined efforts of the five award-winning teams in 2006 have had a remarkable positive impact on the Federal government. This year’s award winners are responsible for annually-recurring savings of \$12 million and more than 400 billion Btu—enough energy to power 6,000 typical households. These remarkable accomplishments serve as a model for all of us and demonstrate how every action we take as Federal employees and as conscientious individuals can cut our nation’s energy bill and increase our energy independence, ensuring our national security and prosperity for years to come.

President Bush and Vice President Cheney extend their gratitude and congratulations to these outstanding Federal employees and agency teams who have helped to save agency operating costs, save taxpayer dollars, improve our environment, and increase our energy security.



We must take our clean energy technologies and replicate, proliferate, and accelerate.

— Alexander Karsner
Assistant Secretary for Energy
Efficiency and Renewable Energy



U.S. DEPARTMENT
OF DEFENSE
NAVAL BASE
CORONADO



Dan A. Chiarello
Captain Anthony Gaiani
Richard D. Johnston
Bernard J. Lindsey
Jorge E. Perez
Michael H. Magee
CMDR Glenn A. Shephard
Timothy H. Weiss

Outstanding Performance

Naval Base Coronado (NBC) has taken a comprehensive approach to energy management, saving substantial amounts of oil, electricity and water. Since 1985, NBC lowered its energy intensity by 45 percent to a remarkable 48,350 Btu per square foot in FY 2005. Since the previous year, NBC used 13.2 billion Btu less energy — savings equivalent to the annual energy use of 189 typical California households. In 2005, NBC invested almost \$7.5 million in new projects that will save 50.5 billion Btu, 11.9 million gallons of water, and \$2.3 million each year. The annual energy savings from these projects is equivalent to the energy use of 720 typical households in the region. NBC's 2005 projects include decentralized steam plants, high-efficiency boilers, high-efficiency washers, solar power, and lighting and water conservation retrofits. To help accomplish energy savings, NBC uses Resource Efficiency Managers (REMs), who are wholly-dedicated specialists trained to improve energy efficiency. REMs helped identify cost effective energy improvements, surveyed water pressure on the distribution system, incorporated best practices for energy efficiency, and coordinated the efforts of individuals assigned as building energy monitors. NBC recognizes its leaders through employee incentive programs and presents awards to individuals making the greatest contributions to efficient energy management. The NBC team incorporates energy management practices into its mission, utilizing operational flight trainer aviation simulators to help reduce the cost of flight time and petroleum consumption. NBC publicizes its energy efficiency accomplishments and promotes energy awareness through print and broadcast media and solar-powered LED signage.



U.S. DEPARTMENT
OF DEFENSE

NAVAL UNDERSEA
WARFARE CENTER,
DIVISION KEYPORT

Institutionalization

The Naval Undersea Warfare Center, Division Keyport institutionalized energy efficiency and water conservation by building these principles into its standard practices and procedures. From those practices, overall energy intensity dropped 7.4 percent from the previous year — nearly 18.4 billion Btu, enough for 263 area households annually — and almost 33 percent from the 1985 baseline. Facility projects and designs are reviewed and tracked to maximize energy efficiency and water conservation throughout Keyport and at all detachments, laboratories, underwater ranges, and operations sites in Washington, Hawaii, California, and Nevada. Keyport is also making progress toward its energy efficiency goals by incorporating LEED criteria into construction of new buildings, replacing failing boilers, installing new climate control equipment, and retrofitting base-wide lighting systems. Keyport awarded a utility energy service contract to construct a sub-metering network to better track energy consumption and reduced its petroleum consumption by transitioning to more fuel-efficient vehicle models. Keyport has also enabled the ENERGY STAR® energy-saving features on 98 percent of its personal computers. Keyport trains and uses personnel assigned as building energy monitors to promote energy awareness and make energy conservation and efficiency part of the routine business of all employees.

Greg Alsin
Phil Beste
Joe Feldmeth
Steve Giermann
Jerry Gray
Mark Halvorsen
Lee Anne Hausdorf
Jeff Pfof



**U.S. DEPARTMENT
OF DEFENSE**
**MARINE CORPS AIR
STATION YUMA**
**CONTINUOUS ENERGY
EFFICIENCY AND
MANAGEMENT PROGRAM**



- Michael P. Boyd
- Ronald J. Durfey
- Colonel Ben D. Hancock
- Frank G. Heddy
- Andrew W. Hovanec
- Ronald L. Kruse
- Raul C. Pino
- Stephen E. Robinson
- Lieutenant Colonel Stanley W. Salamon
- Richard A. Samrah
- CMDR William M. Sheedy
- Robert A. Varela
- Chau M. Vu
- Phu M. Vu

Outreach

In 2005, Marine Corps Air Station (MCAS) Yuma reduced its energy use per square foot by 3.5 percent compared to 2004 and 40 percent compared to a 1985 baseline. This is a savings of 8.1 billion Btu from the previous year, enough energy for 116 typical area homes for a year. MCAS Yuma worked with its local utility and implemented most of its energy efficiency projects through a utility energy service contract (UESC), which will produce energy savings at no net cost to the taxpayers. UESC projects included use of highly efficient LED technologies in airfield aviation and safety applications, retrofitting low pressure sodium lighting with T-5 high output fluorescent fixtures, and water conservation projects such as desert landscaping, which introduces drought resistant vegetation to reduce water demand. MCAS Yuma highlights all new energy projects on its web site and in the local newspaper. Energy conservation tips are distributed biweekly via e-mail and reach about 15,000 personnel. Yuma is one of the Navy's busiest air stations and supports commercial operations, which enables a private and public access to the improved airfield lighting. It continues to expand outreach programs beyond the base and has become a role model for the military, the community, and the private sector.



**SOCIAL SECURITY
ADMINISTRATION
ENERGY INITIATIVES
TEAM**

Implementation

The Social Security Administration (SSA) improved its energy efficiency and reduced its emissions by using many of the tools identified in Executive Order 13123. Recently, SSA completed installation of the largest Federal solar array in Chicago, which generates enough electricity in one day to power 100 homes and over its lifetime will save the equivalent of 1,400 tons of coal. SSA completed two other solar projects, a photovoltaic rooftop array at the Frank Hagel Federal Building, Richmond, California and a solar hot water system at the Mid-Atlantic Social Security Center in Philadelphia, Pennsylvania. SSA uses utility energy service contracts (UESCs) and energy savings performance contracts (ESPCs), along with direct funding, to install high efficiency lighting improvements, water-conserving fixtures, HVAC upgrades, and cogeneration projects, and to purchase ENERGY STAR® products and green power. SSA policies and guidelines incorporate and require life-cycle cost analyses for major retrofits, application of sustainable design principles for new buildings, procurement of ENERGY STAR® equipment, and consideration of renewable energy technologies. SSA has two headquarters buildings that are certified using the U.S. Leadership in Energy and Environmental Design (LEED™) criteria, which considers energy efficiency performance, among other sustainable design principles. SSA is working with the General Services Administration on two other building renovations that will incorporate LEED Silver building design criteria and enable an ENERGY STAR® building designation (top 25 percent in terms of energy efficiency).

Wayne F. Bory
Philip L. Chancellor
Tim Corbett
Bill Dragan
Janice M. Heppe
Daniel Scott Howard Sr.
Kathy Lang
Frank J. Mechlinski
Deborah A. Paul
Sharon Remaly
David A. Rouggy
Donna L. Siegel
Larry G. Smith
Robert Stiteler
Don Wadhams



UNITED STATES
POSTAL SERVICE
PACIFIC AREA ENERGY
PROGRAM COMMITTEE



Ray Levinson
Joe Vanden Berg
William H. Golove
Alex Lekov

Results

The United States Postal Service (USPS) Pacific Area Energy Program has become a model program for other USPS Areas and Federal energy management programs to emulate. Since it received the 2003 Presidential Award for Leadership in Federal Energy Management for Institutionalization, the USPS Pacific Area has continued to employ a wide variety of techniques and implemented clean energy projects to reduce costs, air pollution, and demand on the California electrical grid, while increasing the use of renewables and clean technologies. In 2004 and 2005, energy audits were conducted at 322 postal sites, and 276 facilities initiated on-site generation projects to achieve greater energy efficiency. The actions of the Pacific Area Energy Team resulted in investment of \$108 million and annual savings of approximately \$9.4 million and nearly 340 billion Btu — enough for more than 4,800 typical households in the region for a year. Included in these efforts was the development of the largest civilian agency stock of solar photovoltaic systems. In FY 2005 alone, projects were initiated at 181 facilities with a total capital value of \$84.3 million generating annual savings of \$6.2 million and 220.7 billion Btu. Among these are on-site generation projects including a 1-megawatt combined heat and power system in San Bernardino and a 910-kilowatt photovoltaic project in Oakland, California.

FEDERAL SUMMARY



The Edwards Air Force Base Consolidated Support Facility incorporates a unique cooling system to meet daily demands through off-peak, night-time generation of thermal energy in ice banks.



The USPS in Anchorage, Alaska, uses power generated by highly efficient, low-emission fuel cells.



The 100 kilowatt solar electric system at the Harold Washington Social Security Center, Chicago, IL, generates enough electricity to offset peak power demands.

In 2006 the Federal government set excellent examples for the American public through its leadership and strong partnership with utilities, energy services companies, and others in the private sector. The natural disasters of Hurricanes Katrina and Rita required extraordinary efforts among Federal agencies, and President Bush directed heads of executive departments and agencies to take actions to conserve energy use. In response, FEMP helped to lay out a framework for meeting this challenge with coordinated action on the ground and across all agencies.

Challenges like these bring out the best qualities in Federal workers and offer great rewards for a career in public service. In three fundamental ways, Government personnel at all levels continue to work to save energy and money for American taxpayers and create a more secure energy future for the nation.

First, Federal agencies are using energy more wisely. The acceleration of implementation and deployment of technological advances in energy efficiency have enabled Federal employees to make great progress in energy savings – from the operation of laboratories and military bases to the construction of new Federal buildings.

Second, agencies are modernizing and upgrading facilities through financing vehicles like SuperESPCs and UESCs. Older and inadequate buildings and facilities are not being allowed to further deteriorate and fall into disrepair. New public-private partnerships and innovative financing are being arranged to repair, retrofit, and revitalize Federal facilities. Since 2003, the

Government invested approximately \$2.2 billion in energy efficiency, \$921.4 million of which was direct agency expenditures, \$902.4 million was from ESPCs, and \$338.9 million was from UESCs.

Third, agencies are ensuring that their operations include diverse and distributed energy supplies. Even with the impressive efficiency gains and successful conservation efforts achieved to date, the Federal government must continue to increase its use of renewable and alternative fuels to ensure the Nation's energy security.

Federal energy and facility managers are addressing the new mandates of EPOA 2005 with advanced technology, dedicated leadership, public-private partnerships, and a coordinated plan with all Federal agencies. The results are being realized in dependable, affordable, and secure energy supplies, with less impact on the environment and less cost to the American taxpayer.

In FY 2006, FEMP provided national leadership and guidance through new projects and initiatives in financing, technical assistance, policy coordination, and outreach. In FY 2007, FEMP will continue to guide the Federal government through new and exciting opportunities to reduce energy and water usage, increase use of renewable energy, and manage utility costs.



The National Oceanic and Atmospheric Administration's (NOAA) Great Lakes Environmental Research Laboratory set a goal to minimize the use of petroleum products on board its research ships.



The Edward R. Roybal Campus, Centers for Disease Control and Prevention, Atlanta, GA, includes three new sustainable buildings, a central utility plant, and a self-sustaining green space.



Building 54, Pearl Harbor Naval Facilities Engineering Command, HI, a historic World War II aircraft hangar, now has a 309-kilowatt photovoltaic array on its roof.



FEDERAL ENERGY MANAGEMENT PROGRAM

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U.S. Department of Energy
**Energy Efficiency
and Renewable Energy**

Bringing you a prosperous future where energy
is clean, abundant, reliable, and affordable