Federal Energy Management

Year In Review 2001

United States Department of Energy
Office of Energy Efficiency and Renewable Energy
Federal Energy Management Program
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Department of Energy

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and Renewable Energy

Federal Energy Management Program
Federal Agencies in the military and civilian branches of government are on a mission to ensure reliable, affordable, and environmentally sound energy supplies for the Nation. This mission, however, will not be achieved quickly or easily. It will require time to comply with laws and Executive Orders and perseverance to overcome significant obstacles in the path to success. It will require innovation in technology and engineering. It will demand new ways of doing business in a continually changing energy environment.

Challenges like these nevertheless bring out the best qualities in Federal workers and offer the greatest rewards for life in public service — a stronger government, a more secure Nation, and a healthier environment.

Reducing energy consumption is not only the work of engineers, operations personnel, and budget analysts. Every Federal worker shares the mission to save energy. Each has the personal authority and responsibility to do so — by raising productivity, by reducing waste, and by doing the simple things day after day that result in tremendous positive change.

This publication demonstrates how the coordinated efforts of Federal Agencies support this mission, recently articulated in the President’s National Energy Policy. It highlights the efforts of many dedicated Federal employees who are providing Leadership by Example to reach the objectives set forth in that policy.

We pledge to accelerate our efforts to reduce energy consumption, increase energy efficiency, and harness our natural resources for a strong and secure America. We hope you will join us.

Sincerely,

Beth Shearer
Director
Federal Energy Management Program
Office of Energy Efficiency and Renewable Energy
OVERVIEW

The Federal government’s energy challenge begins with America’s expanding economy, growing population, and rising standard of living. America’s tremendous prosperity and quality of life is sustained by the availability of affordable energy.

The good news is that since 1973, the U. S. economy has grown nearly five times faster than energy use (126 percent vs. 26 percent). The bad news is that over the next 20 years U. S. oil consumption is projected to increase by 33 percent, natural gas consumption by 50 percent, and electricity demand by 45 percent; yet America produces 39 percent less oil today than in 1973. If we stay on the present course, America will import two of every three barrels of oil it consumes.

To reverse these trends, the government significantly reduced energy use in Federal buildings in the 1990s by installing energy efficient technologies. Still, in 1999 the government spent nearly $8 billion to power its vehicles, operations, and nearly 500,000 buildings. Clearly there is much more work to be done. As the largest energy consumer in the Nation, the U. S. government’s energy-saving opportunity is enormous.

Conservation and efficiency are important elements of sound energy and water management. Federal agencies are promoting efficiency and conservation by disseminating timely and accurate information regarding energy use, setting standards for the purchase of energy efficient products, encouraging industry to develop more efficient equipment, and deploying more advanced technologies through up-front private investment in Federal facilities.

Sound energy and water management also includes a clean and diverse portfolio of domestic energy supplies. Through improved technology, the Federal government is leading in the development of clean, natural, renewable, and alternative energy.

The President has directed heads of executive departments and agencies to take appropriate actions to conserve energy use. The National Energy Policy lays out the framework for achieving America’s energy management goals. As the examples in this document clearly illustrate, those objectives are now being implemented with coordinated action and shared responsibility.
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While energy efficiency and conservation are still bedrock values, ensuring energy security and reliability have been added to the foundation of Federal energy management. In FY 2001, volatile energy prices, electricity supply shortages, and the requirements of environmental stewardship required new types of technical assistance and training services to meet new challenges of Federal energy managers.

**DISTRIBUTED ENERGY RESOURCES**

Distributed energy resources (DER)—modular, decentralized, grid-connected or off-grid generating technologies located in or near the place where energy is used—have great potential to meet the Federal government's urgent need for reliable, affordable electric power. In FY 2001, DER systems such as photovoltaics, microturbines, fuel cells, wind generation, and combined heat and power (CHP) helped agencies reduce peak operating costs and improve the reliability of their electric power. FEMP worked with the Office of Power Technologies to provide $958,000 in DER equipment upgrades, subsidies, and technical assistance to 20 Federal sites. In FY 2001, FEMP's ADD CHP (Accelerated Development & Deployment of CHP at Federal Sites) teams provided design, technical assistance, and financing guidance for several important new CHP projects.

**ENERGY-INTENSIVE BUILDINGS**

Federal agencies are now making a special effort to reduce energy usage in energy-intensive facilities. The Industrial Facilities Program, a collaboration between FEMP and DOE's Office of Industrial Technologies, recently began offering energy assessments and best practices advice to help manage process loads at Federal facilities. As the most recent examples, two Federal sites are now reaping immediate rewards. Improvements to a U.S. Postal Service facility in Atlanta will reduce energy use by 12%, yielding savings of $74,000 a year. Improvements to the Bureau of Engraving and Printing in Washington, D.C. will reduce utility costs by 15% and save $725,000 a year.

Laboratories for the 21st Century (Labs21), an EPA/DOE initiative, helps laboratories improve energy and water efficiency and implement renewable energy technologies. In FY 2001, this popular program delivered a successful series of one-day training workshops targeted for architects, engineers, and operations personnel.

**ENERGY EFFICIENT STANDBY POWER**

Executive Order 13221 issued on July 31, 2001 directed Federal agencies to reduce energy consumption by selecting products that use as little as 1 Watt in standby mode. Many products—including computers, printers, and all devices with remote controls, external power supplies, continuous digital displays, and rechargeable batteries—use electricity even when they are switched off. FEMP, in collaboration with the General Services Administration, Defense Logistics Agency, and the ENERGY STAR® program, is developing a current list of products that use less power in the standby mode.

**FEMP ALERT TEAMS**

All Federal agencies, but especially those located in the West, faced severe electricity supply shortages and price volatility. On May 3, 2001, the President directed Federal facilities to conserve energy and reduce peak demand. In response, FEMP mobilized ALERT (Assessment of Load- and Energy-Reduction Techniques) teams to conduct assessments at 25 Federal sites in California between May 3 and July 31. The teams identified low- and no-cost conservation opportunities to implement quickly. These measures resulted in average potential savings of 9.2% reduction in peak demand, 10.4% in cost savings, and 10.6% reduction in electricity consumption. Lessons learned were then communicated to a broad Federal audience through a live Internet broadcast. Follow-up assistance was provided to the 25 sites to ensure fulfillment of the recommendations.

**RENEWABLE POWER**

In response to E.O. 13123 Federal agencies are striving to purchase 2.5% of their electricity from new renewable sources by 2005. FEMP is now providing project implementation and procurement support to help agencies meet this goal. In FY 2001, FEMP worked with GSA, EPA, and the Air Force to find potential suppliers, explore purchasing options, and assist with putting contracts for renewable power in place. FEMP also published Purchasing Renewable Energy: A Guidebook for Federal Agencies, and expanded its renewable energy training programs.
Managing energy data with advanced technologies cuts peak loads and energy costs for Federal agencies.

**TECHNICAL ASSISTANCE**

To identify, design, and implement new construction and facility improvement projects, Federal agencies receive assistance in areas such as:

- Energy and water audits for buildings and industrial facilities
- Peak load management
- Whole-building design and sustainability
- Renewable energy technologies
- Distributed energy resources
- Combined heat and power technologies
- Energy efficient products
- New technology deployment
President Bush, through the National Energy Policy, has mandated that the Federal government achieve significant savings in energy use to enhance energy security and reduce the cost of government to the taxpayer. Secretary of Energy Spencer Abraham has said that innovative energy financing through public/private partnerships is one of the best ways to help the Federal government meet President Bush's goals to save energy and money.

Super Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) are practical and flexible vehicles that allow for private sector up-front financing of long-term energy saving projects. Contractors are paid from the savings resulting from the projects. Agencies using Super ESPCs and UESCs pay only for the services they choose, fine-tune the performance guarantees, and assign responsibilities to suit their own in-house resources, capabilities, and priorities. In FY 2001, Federal agencies expanded their use of these contracts, as FEMP continued to streamline and improve upon Super ESPC and UESC services.

ESPCs
In FY 2001, 31 Super ESPC delivery orders totalling $120.4 million exceeded FEMP’s goals. Since the first ESPCs were awarded, the total value of private sector investment is $230.7 million, covering 72 awarded delivery orders for 14 Federal agencies. The cumulative guaranteed cost savings from these projects is estimated to be $482.1 million.

Federal customers in FY 2001 were able to benefit from a recently consolidated Super ESPC format. Contracting officers, project facilitators, technical team leads, and energy service companies worked together to consolidate DOE’s six sets of regional Super ESPCs into one. The new uniform contract format eliminates unnecessary administration, reduces costs associated with contract variations, and requires fewer and less costly training workshops. Now that the format of all Super ESPC contracts are identical, Federal customers benefit from delivery order documents developed at other sites without the need for significant change, reducing the time and cost to implement projects.

To further expedite the Super ESPC process, experienced Project Facilitators guide agency customers through the entire process of developing projects, awarding delivery orders, and verifying savings. Project Facilitators attend two workshops each year to improve project management and team-building skills and refine tools that help agencies quickly and effectively implement Super ESPCs.

UESCs
FEMP also pursues utility energy services, financing, procurement, and incentives to support Federal projects in a new and changing utility environment. More than 60 electric and gas utilities have implemented energy projects and upgrades at Federal facilities around the country, investing more than $675 million through UESCs. $180 million invested in FY 2001 will save $39 million each year.

UESCs encompass:
- Lighting and Mechanical Systems Upgrades
- Cogeneration
- Boiler/Chiller Retrofits
- Steam System Improvements
- Controls
- Energy and Water Combined Projects
- Heat Pumps

Through the Federal Utility Partnership Working Group, more than 100 utility and energy-related organizations share best practices and enhance communications with Federal agencies. In addition, 20 Utility Partner Resource Centers across the country provide Federal energy managers with convenient, localized support and access to energy saving opportunities.

Even with numerous guidance documents, training programs, and related technical assistance, the use of Super ESPCs and UESCs needs to expand across all Federal sectors. Both Federal and private sector parties agree that an increase in participation is needed to meet the mandated energy saving goals set for 2005.
Alternative financing strategies help agencies install innovative technologies, such as this 1 MW fuel cell system delivering green power to the Anchorage, Alaska Post Office.

**FINANCING**

Agencies need dollars to make projects happen. They seek project financing through:

- Energy Savings Performance Contracts (ESPCs)
- Utility Energy Savings Contracts (UESCs)
- Rebates
- Public benefits funds
Unanticipated world events and major electricity supply problems brought a re-emphasis on energy security and reliability in Federal energy management policy. The new Administration focused specifically on these issues with a Presidential Directive and a new Executive Order. The Administration also continued implementation of Executive Order 13123, building on its policy framework and including energy conservation in Federal facilities as a component of the National Energy Policy, developed by the Vice President’s National Energy Policy Development Group. Throughout FY 2001, the Interagency Energy Management Task Force closely coordinated policy implementation and associated reporting requirements with the Federal community.

IMPLEMENTING THE PRESIDENT’S NATIONAL ENERGY POLICY

Based on a recommendation from the National Energy Policy Development Group, President Bush issued a directive on May 3, 2001 to the heads of executive departments and agencies to take appropriate actions to conserve energy use at Federal facilities. In particular, President Bush called on agencies located in regions where electricity shortages were likely to conserve energy use during peak hours. The directive required agencies to report on their conservation actions within 30 days.

To assist agencies in meeting this directive, FEMP issued reporting guidance to the agencies and developed a schedule for preparing a summary report for the Secretary of Energy to present to the President. The guidance included a model Action Plan for agencies to draw upon and answers to questions they might have had regarding the reporting process. The agencies’ information was compiled into the Secretary of Energy’s Report to the President: Energy Conservation Actions Taken at Federal Government Facilities, delivered in June.

Federal agencies also updated their energy management implementation plans. These addressed a wide range of energy management activities, including use of alternative financing for energy improvements, purchase of ENERGY STAR® products, and use of sustainable design in new construction. As a specific focus, agencies reported on measures taken to reduce electrical demand, particularly during peak hours.

FEMP distributed information about the State of California’s public benefits programs and encouraged agencies to take advantage of these incentive programs. These programs are designed to encourage electricity end users to improve the energy efficiency of their operations, shift load away from peak periods, and expand the use of distributed generation technologies.

REPORTING ON ENERGY MANAGEMENT

FY 2000 was the first full reporting year after the signing of Executive Order 13123. Federal agencies included numerous enhancements and additional information in their reports to address new requirements. This included isolating and reporting energy consumption data for Laboratory/Industrial/Energy-Intensive Facilities. The FY 2000 Annual Report to Congress on Federal Government Energy Management also employs the methodology developed by Task Force working groups for estimating carbon emissions from electricity consumption on a regional basis. Major findings of the report include:

- The government surpassed the 20% reduction goal for 2000 by reducing the energy intensity of its standard buildings by 23.6%.
- Carbon emissions from energy used in non-exempt Federal facilities declined 13.6% in FY 2000 compared to FY 1990.

FEMP also worked closely with the Office of Management and Budget during FY 2001 to prepare a summary report of the Federal agencies’ energy scorecards for the FY 2000 reporting period, required by Executive Order 13123.
Not only are legislators taking the lead on establishing energy efficient policies, they also recently conducted an audit of Capitol Hill facilities to identify energy-saving opportunities.

**POLICY**

Federal agencies must reduce energy use by 35 percent by 2010 in comparison to 1985 levels. Effective coordination and sound guidance will help them meet this mandate. Policy efforts include:

- Annual Report to Congress and the President
- Interagency Federal Energy Management Task Force
- Policy guidance
- Legislative updates and tracking
- Federal Energy Management Advisory Committee
OUTREACH

With power outages, energy price hikes, and security issues challenging Federal agencies in FY 2001, it was especially important to have strong and coordinated outreach and awareness programs. Leaders were given the responsibility to provide time-sensitive guidance to their staff and to their customers on new energy management policies, issues, and strategies. Agencies participated in a number of education and awareness programs, through which this timely guidance and information was disseminated widely to Federal employees. Agencies also participated in meetings, conferences, and expositions to share and receive information. Such activities helped keep Federal agencies apprised of new initiatives while providing them with opportunities to share their success stories.

RECOGNITION

One way agencies recognized exemplary leadership was through annual energy management award programs. This year, 64 individuals, groups, and organizations were honored at DOE’s Federal Energy and Water Management Awards ceremony. Four groups were recognized for comprehensive programs through the second annual Presidential Awards for Leadership in Federal Energy Management, hosted at the White House on October 18 by Vice President Dick Cheney. In addition, 18 Federal buildings were designated as Energy Saver Showcases. (Read more about these programs and honorees in the special awards sections).

Twenty of the largest Federal agencies participate in FEMP’s YOU HAVE the POWER campaign to help reach their energy management goals. 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 2001, 19 individuals were recognized, increasing the total number of Energy Champions to 315 since 1997. As a new addition to the campaign, agencies also recognized eleven important energy and water conservation projects through a campaign poster program. These projects are excellent examples that can be used as models for future projects.

AWARENESS

Energy managers, financial officers, and administrators received guidance on time-sensitive issues through the FEMP Web site at www.eren.doe.gov/femp. In September 2001, the Web site received 373,586 hits, a 14 percent increase from the same month in FY 2000. In-depth information was also available through the FEMP Focus published eight times in FY 2001. FEMP Focus covers topics of national importance and highlights success stories and critical achievements of Federal agencies and their private sector partners. Special issues of the FEMP Focus provided information on natural gas shortages and actions taken by Federal agencies to conserve energy use in response to the May 2001 Presidential memorandum.

Agency heads, facilities managers, and Federal employees were alerted to issues of critical importance through FEMP’s “Lead By Example” series. “Hot Topics” in FY 2001 included natural gas price hikes, power outages, and the ever-growing need to conserve water. Federal agencies helped to educate employees on the power of individual actions they could take to save energy, money, and resources for the future.

To further increase awareness of general energy conservation and environmental issues, agencies sponsored and participated in local, regional, and national Earth Day and Energy Awareness Month activities. Agencies sponsored recognition ceremonies and trade shows, set up displays, organized contests, produced hand-out materials, and developed learning activities for children. FEMP supplemented these programs by producing and distributing colorful posters and other outreach materials containing memorable and useful energy-saving tips and messages.

CONFERENCE AND EXPOSITION

To help educate their own employees, as well as share information about their own energy management activities and programs, agencies participated in a number of Federal conferences and expositions, the largest being Energy 2001 in Kansas City, Missouri. The three-day conference sponsored by FEMP and co-sponsored by the General Services Administration and the Department of Defense was attended by nearly 1,150 public and private sector participants. More than 60 sessions featured 170 speakers from a variety of government agencies and private companies. Topics included case studies, new products, trends and strategies for energy efficiency, and current events affecting Federal energy managers. This year’s exposition was the biggest yet with 100 companies staffing 124 exhibit booths.
Outreach materials increase Federal awareness of energy and water conservation issues and alert employees about items of critical importance.

**OUTREACH**

Communications and recognition programs heighten awareness of the benefits of energy efficiency and reward exemplary leadership.

- Newsletters and Web sites
- Awareness and recognition campaigns
- Annual Awards ceremonies
- Conferences and expositions
AWARDS for EXCELLENCE in FEDERAL ENERGY MANAGEMENT
One of the greatest challenges facing our Nation is ensuring that energy resources are available for the future. Adequate supplies of energy are needed for the security and prosperity of the Nation. To help address this challenge, President Bush asked Vice President Cheney to assemble a team to develop a National Energy Policy that will help the private sector, and government at all levels, promote dependable, affordable, and environmentally sound production and distribution of energy for the future.

Supporting the goals of the National Energy Policy are many dedicated Federal employees providing Leadership by Example. The efforts by Federal government energy teams to reduce energy demands and integrate new technologies into the existing energy system help achieve these goals.

Vice President Dick Cheney presented the second annual Presidential Awards for Leadership in Federal Energy Management at a White House ceremony on October 18, 2001. These awards honor Federal agency energy management teams for their exceptional leadership and efforts to promote and improve Federal energy and water management and conservation.

The President and Vice President extend their congratulations and gratitude to those Federal agency teams recognized for outstanding efforts to make the Federal government’s energy management program a success.
Federal Energy Management Success
NASA's energy team is a well-integrated group comprised of key members of the agency-level Energy Efficiency Board that guides the planning and implementation of energy efficiency activities. NASA's successes include:

- **ENERGY POLICY.** NASA issued an Agencywide directive providing detailed procedures and guidelines for meeting the requirements and goals of Executive Order 13123, using alternative financing, and evaluating renewable energy and water conservation measures.

- **ALTERNATIVE FINANCING.** Over the past three years, NASA has awarded or participated in eight Energy Savings Performance Contract (ESPC) delivery orders and four Utility Energy Savings Contracts (UESCs) that resulted in over $34 million in facility energy efficiency and water conservation improvements. In FY 2000 alone, NASA used alternative financing to implement $2.7 million in energy and water projects that are saving $375,000 annually. In addition to saving energy and money, the projects will save 8 million gallons of water annually and remove thousands of PCB-filled lighting ballasts.

- **RENEWABLE ENERGY.** NASA uses solar, geothermal, wind, and other renewable energy sources in innovative and cost-effective applications. A landfill gas supply contract awarded by Goddard Space Flight Center will reduce greenhouse gas emissions, enhance fuel supply reliability, and save at least $330,000 annually in energy costs. A wind power project at Ames Research Center reduces facility maintenance costs and has a nine-year simple payback.

- **SHOWCASE FACILITIES.** In FY 2000, NASA installed a 2,500 square foot transpired solar wall and modular condensing gas-fired boilers in the Aircraft Support Facility at NASA Dryden Flight Research Center. The project reduced air emissions to the point that expensive air permitting is no longer required.

- **ENERGY STAR® BUILDINGS.** The Child Development Center at Kennedy Space Center and the Chief, Naval Meteorology and Oceanography Command Administration Facility at Stennis Space Center earned the prestigious DOE/EPA ENERGY STAR® Label for Buildings.

- **MANAGEMENT.** Energy efficiency and water conservation is an integral part of the agency's Environmental Strategy and Functional Leadership Plan. The team's achievements are an indication of strong management support for energy efficiency.

- **MANAGEMENT INFORMATION SYSTEMS.** NASA developed and implemented the NASA Environmental Tracking System, an electronic database for collecting, aggregating, analyzing, and reporting environmental and energy data, to aid in agency-level reporting and functional management.

- **AWARDS AND RECOGNITION.** The agency has named 19 of its employees and on-site support contractors as “Energy Champions” since DOE started this recognition program in 1997. NASA will establish its own internal awards program next year.
“Stamp Out Energy Waste”

The Southeast Area’s Energy Steering Committee produced and implemented a Strategic Energy Management Plan that embraces many of the tools of Executive Order 13123. The results show that the Southeast Area’s successful implementation of these tools has saved significant amounts of both energy and financial resources.

- **ALTERNATIVE FINANCING.** The USPS has negotiated shared energy savings contracts with six utilities covering 352 Postal Service facilities. The cumulative investment in energy efficiency improvement will total more than $21 million over the next five years and generate annual energy cost savings of approximately $4 million, for a simple payback of 5.2 years.

- **ENERGY CAPITAL IMPROVEMENTS.** The Southeast Area invested $375,000 of its own capital towards energy efficiency improvements, generating annual energy cost savings of $104,000. This investment is just the start of a comprehensive program aimed at energy capital improvements in small- and medium-sized postal facilities.

Moreover, the Steering Committee has launched several of its own initiatives to increase energy efficiency. These include:

- **METERING.** The USPS established a database that tracks energy use and cost at the 3,800 facilities in the Southeast Area. A statistical model was developed to help the Committee use the information in the database to determine which energy programs (from awareness to capital improvements) are best suited to achieve improved energy efficiency.

- **ENERGY DATA WEB PAGE.** The page is a quick tool that Energy Managers can use to acquire energy usage and cost data at the facility, district, or area level.

- **DISTRICT ENERGY ACTION PLANS.** All nine districts in the Southeast Area have completed (or will soon complete) plans that identify specific energy conservation actions that will be taken over the next five years, the expected savings, and specific strategies for documenting and reporting results annually.

- **PARTNERING ALLIANCES.** The Southeast Area partnered with the Florida Energy Office and a consulting firm to establish a Resource Energy Manager (REM) Pilot Project. The resulting $100,000 grant used to hire the first REM led to overall documented savings of $290,000 in less than a year. The USPS also utilized the expertise of DOE’s SAVEnergy program and the Florida Energy Office to identify energy conservation measures requiring a $106,000 investment, yielding cost savings of more than $18,000 per year.

- **ENERGY AWARENESS.** The Southeast Area launched an energy awareness campaign with the slogan, “You Have the Power to Stamp Out Energy Waste.” The program goal is to have at least half of its employees sign an energy conservation pledge card within a year. The pledge card commits employees to be good stewards of energy conservation by taking basic actions (e.g., turning off lights and computers when not in use, etc.).
The Iwakuni Air Station implemented a comprehensive and inspiring energy management program under the leadership of James L. Trocke. They assembled a highly efficient Energy Conservation Planning Group, chaired by the Executive Officer of the Station, and a group of energy monitors throughout the Air Station. Their accomplishments include:

- **UTILITY RATE NEGOTIATION.** The Planning Group modified and enhanced existing orders and policies governing energy programs at the Air Station and negotiated a new billing rate structure which resulted in savings of $1.5 million annually in electricity charges and more than 50,000 MBTUs.

- **“GREEN-OUT.”** This is an innovative, voluntary, cost-free method of shaving high peak electrical consumption demands. The Green-out program saved the Air Station from raising its contract power peak level and paying high penalty charges for exceeding it, helped reduce metered energy consumption, and elevated energy conservation awareness of all Station residents.

- **WATER CONSERVATION PROGRAM.** The program will result in 30 percent water savings, equating to a projected savings of $800,000 annually.

- **STEAM CYCLING.** The energy team determined a way to cycle waste steam in buildings throughout the Station in the heating season to dramatically reduce boiler loads. It saves approximately $340,000 a year in fuel costs.

- **ENERGY AWARENESS WEEK.** The team orchestrated a full week of Energy Awareness events at the Station, including a 10K run, school field trips, poster and essay contests, a “car jam,” and a barbecue. The events included everyone from the Base, were well attended, and had an energy conservation theme.

Other small projects implemented include:

- A proactive program to ensure lights on the Air Station were secured every night, saving more than $25,000 per year in electricity.

- Nighttime inspections to identify unneeded street and parking lot lights. More than 40 unnecessary lights were found and secured saving about $6,000 per year in electricity costs.

- A water conservation initiative to reduce water pressure in housing, saving approximately $25,000 annually.

- Replacement of lighting with energy-efficient compact fluorescent lighting, saving $10,000 per year in electricity costs.

- A program to reduce the temperature in all hot water heaters, saving about 50,000 gallons of heating fuel each year.
“Demand-Side Management”

Navy Region Southwest (NRSW) formed a Regional Energy Program Office (REPO) in response to spiraling electricity prices and electricity shortages in Southern California. The demand-side management initiatives spearheaded by the REPO helped the local utility avert Stage 3 alerts and regional rolling outages.

- **UTILITY DEMAND REDUCTION.** This program to reduce both peak-load and base-load demand for electricity resulted in savings of $1 million and 5 million kWh in just three months at the three NRSW bases in San Diego. Several NRSW bases reduced base-load demand by 12 to 18 percent.

- **ESPICS AND DEMAND-SIDE MANAGEMENT (DSM) PROJECTS.** A current investment of $21 million is expected to yield $4.5 million in annual savings. An additional investment of approximately $35 million has anticipated annual savings of $11 million. The large projects include everything from cogeneration plants to photovoltaic and microturbine systems.

- **RENEWABLE ENERGY.** A 21.6 kW photovoltaic system is being constructed in partnership with the local utility, the State of California, and private sector companies. The system will produce 39,420 kWh annually. More importantly, it will cut demand by more than 20 kW during mid-afternoon, when the local utility grid is struggling with peak usage. An additional benefit of the PV system is reduced emissions, which over its 20-year life will include: 1,111,644 lbs. of CO2, 9,461 lbs. of SO2, and 3,942 lbs. of NOx.

- **MANAGEMENT AND TEAMWORK.** REPO broadcasted daily energy updates and coordinated weekly electricity action meetings and several “Electricity Summits.” Eleven energy specialists were deployed to identify large consumers of energy in the NRSW. Load reduction measures (e.g., banning air conditioning, directing that office equipment be turned off at night) were issued from the highest level personnel in NRSW. Weekly load profiles were issued for each base. During severe electricity shortages, there was constant contact among the NRSW, DOE, and the California Energy Commission.

- **METERING.** REPO adopted MVWeb, a Web-based demand management system, to help identify activities and areas of high electricity usage. In several instances, usage spikes or other anomalies were traced to wasteful practices, which were modified or terminated.

- **RESOURCE EFFICIENCY MANAGEMENT (REM) PROGRAM.** The REM program establishes a position for a full-time, dedicated energy manager. Through energy cost savings and utility incentives, the program offers returns far above program costs.

- **AWARDS.** NRSW developed and implemented its own awards program to award top performers in effective energy management.

Receiving the Presidential Award for Leadership in Federal Energy Management from Vice President Dick Cheney are Navy team members (l to r) David Crouch, Matthew Kelly, Darryl Matsui, John Icenhower, Captain Jack Surash, John Thomas, Lt Cmdr Wade Wilhelm, and Ed Thibodo.
More than ever before, our energy future depends on our own energy independence and the energetic commitment of individuals within government to achieve a prosperous future. America can no longer rely on foreign sources to fuel our country’s growing energy needs.

The success of the Federal government in reducing its energy consumption and related environmental impacts rests squarely on the shoulders of the Energy Champions who have led their agencies into a brighter energy future. This leadership often entails overcoming one challenge after another. Those who pursue energy efficiency must demonstrate hard work, innovation, persistence and vision. That is why the Department of Energy, Federal Energy Management Program is proud to salute the winners of the 2001 Federal Energy and Water Management Awards.

In one year, the winners—through a combination of public and private partnerships—have saved more than $33.4 million and 2.7 trillion Btu by actively identifying and implementing energy efficiency, water conservation, and renewable energy projects. The award winners have also inspired others to increase their own efforts to save energy and water. FEMP is grateful for their pursuit of excellence in facility management.
Water Management Awards to Organizations

NAVSEA Keyport, Undersea Warfare Center Division
Department of the Navy
Keyport, Washington

The NAVSEA Keyport, Undersea Warfare Center Division developed and implemented an innovative water-wise landscaping program that is beautifying the Base and saved $50,000 and 200,000 to 400,000 gallons of water during FY 2000. The program provides high visibility for water conservation near the main entrance, to base personnel and residents of Kitsap County and Western Washington. The success of the Keyport Innovative Landscaping Program is due entirely to extraordinary teamwork—an effort that has helped solidify the local community as well. Numerous organizations lent their support, including a landscape architecture class from a local community college that developed a detailed design package using indigenous plants and ground cover. The manpower for the project was provided by the Navy Transfer Personnel Unit (TPU) from Bangor Base. The TPU refurbished curbside and wooden planters, cleaned storm drains, removed unwanted vegetation and debris, planted shore pines, cleared and rehabilitated the nature trail, and reestablished the wetlands by planting native grasses and trees. Initially the project saved approximately $50,000 annually in grounds maintenance costs. Subsequently, during a two-year period, the grounds maintenance contract was reduced by more than $70,000.

Water Management Awards to Organizations

NAVSEA Crane, Surface Warfare Center Division
Department of the Navy
Crane, Indiana

The NAVSEA Crane, Surface Warfare Center Division utilized innovative thinking in developing the Indiana Water Conservation Project. Previously, Crane’s 175-mile water distribution system was antiquated and springing leaks, which sent water bills soaring. This forced the Base to rethink its water operations, from production and distribution to end use. One innovative idea that arose from this creative process and that has proven effective was to use scuba divers to clean water towers instead of draining the towers. This change alone saved 1.8 million gallons of water. Crane modernized the water production plant, improving its efficiency and effectiveness. This effort is saving 20 million gallons of water per year. The water consumption crisis in Crane's distribution system drove Crane to seek ways to improve the system through monitoring and analysis. As a result, Crane removed 26 miles of obsolete leaking piping in the water distribution system. In addition, they repaired the leaky swimming pool, saving 1.6 million gallons of water. By reexamining all operations, they were able to devise improvements that are saving $90,000 a year and approximately 88 million gallons of water, representing a 30 percent reduction for the Division.

Captain Mary Townsend-Manning, Jerry Gray, and Kevin Evans

Brent Storey and Captain Select F. Frank Aucremanne
**Water Management Awards to Organizations**

**Fort Carson**  
**Department of the Army**  
**Fort Carson, Colorado**

Fort Carson, Colorado, maintains a comprehensive water conservation program consisting of sound environmental management, special projects, outreach, and education to protect and conserve water resources. Water-saving projects at Fort Carson include centralizing its vehicle wash facility, using wastewater to irrigate its 180-acre golf course, installing composting toilets that are almost waterless, practicing beneficial landscaping, and more. Through these projects, Fort Carson reduced its water-use 17 percent between 1989 and 2000, saving the Post more than $1.8 million per year in avoided water and wastewater treatment costs. Total water savings are in excess of 580 million gallons per year. Most notable about the reduction in water use is that it occurred while troop strength essentially remained the same and a sizable increase in water use for irrigation took place. Thus, water use and reuse at Fort Carson is a carefully thought out and orchestrated effort.

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**Mobility Energy Efficiency Awards to Organizations**

**USS ESSEX**  
**Department of the Navy**

Innovative thinking and creative strategies have characterized the USS ESSEX’s energy awareness and conservation plans. Energy training and awareness extends to all Marines on the ship and is integrated into every level of planning and operations by the Energy Conservation Board. Non-traditional anchoring plans and maintenance strategies have generated large energy savings. While at anchor in auxiliary steaming status, fuel savings of 23 percent are achieved. The USS ESSEX also switched to a single boiler plant mode of operation, which is now 24 percent more efficient than operating two boilers throughout the majority of its speed range. These efforts have resulted in savings of 225,000 gallons of fuel and more than $135,000 during FY 2000. These energy savings were attained despite the high operational tempo of a ship such as ESSEX, laying to rest the belief that energy conservation and real-world military taskings are mutually exclusive.
Mobility Energy Efficiency Awards to Organizations

Fleet Logistics Support Squadron 57
Department of the Navy
San Diego, California

Through careful planning, heightened awareness, training, and a commitment to sound energy management practices, Fleet Logistics Support Squadron 57 (VR-57) saved more than $830,000 in energy costs during FY 2000. A 23 percent reduction in fuel consumption was achieved by carefully tailoring fuel loads to the minimum necessary to meet individual mission requirements, using computerized flight planning programs to determine optimum performance, and implementing strict maintenance inspection schedules, among other strategies. By operating more efficiently and reducing flight hours, VR-57 has been able to meet all operational commitments while achieving impressive energy savings.

Mobility Energy Efficiency Awards to Small Groups

1st Lieutenant Stacy Clark
Gunnery Sergeant Michael M McGill
Marine Corps Air Station
Yuma Arizona
United States Marine Corps
Yuma, Arizona

The Motor Transport Department at the Marine Corps Air Station initiated several steps to save energy while maintaining sound operational efficiency. A strategy was devised to acquire vehicles with substantially higher fuel economy, procure alternate-fueled vehicles, terminate under-utilized vehicles, and assign vehicles to multi-tasking duties. Forty-four gasoline vehicles were replaced with electric vehicles, resulting in a cost avoidance of more than $4,400. Bio-fueled vehicles now comprise 75 percent of the new vehicle procurements, and the Department is working with the City of Yuma to locate a compressed natural gas refueling station in Yuma. Total cost avoidance during FY 2000 resulting from these comprehensive efforts was $112,682.
Fort Bragg embarked on an ESPC program in February 1998 by conducting a detailed selection process to choose an energy savings contractor (ESCO). Honeywell was selected, and the first proposal was submitted in October 1997. The project aimed to reduce energy use, lower costs, reduce environmental emissions, and improve the quality of life for the soldiers, dependents, and employees of Fort Bragg. For FY 2000, Fort Bragg saved more than $5 million and almost 150 billion Btu as a result of the ESPC program. The cost reduction will generate close to $98 million in savings over the term of the ESPC program. Nearly $94 million of those savings are being reinvested into Fort Bragg’s facilities and infrastructure.

Naval Training Center Great Lakes
Department of the Navy
Great Lakes, Illinois

Naval Training Center (NTC) Great Lakes, Illinois, is undertaking a ten-phase multi-year, multi-million dollar Base-wide program to identify and implement energy conservation opportunities. This demand-side management project with Commonwealth Edison (ComEd), the local electrical utility, uses ComEd’s expertise and capital to perform and finance initiatives that would otherwise likely not be considered. The project is being accomplished in phases. Each phase covers approximately 20 buildings. ComEd made $14.6 million in energy improvements at the Center during 2000, resulting in savings of $2.1 million and more than 107 billion Btu per year. Three additional phases costing $21 million, that will save an estimated $2.4 million per year, were developed during 2000, with construction and installation scheduled for 2001.
Alternative Financing Awards to Organizations

Naval Support Activity Mid-South
Department of the Navy
Millington, Tennessee

In its continuing effort to meet high energy performance standards, Naval Support Activity Mid-South entered into a basic ordering agreement project containing three energy conservation measures: 1) replacing the central steam plant; 2) installing an energy management control system; and 3) performing a lighting retrofit. The central steam plant replacement included the installation of high efficiency hot water boilers, high efficiency domestic hot water heaters, and natural gas-fired unit heaters in the 55 buildings served by the central steam plant. An energy management system and commissioning effort included installation of native BACnet Direct Digital Controls in 38 individual buildings and connection of controls via a fiberoptic LAN network station. The system utilizes intelligent distributed control modules located in each building and factors in occupancy schedules as well as night set back, demand limiting, and chiller optimization. The project also included lighting retrofits of all existing F40 fluorescent lamps, magnetic ballasts, incandescent lamps, and exit lights located in the interior of the buildings with new energy-efficient lamps and ballasts. This $13.2 million project is saving $1.7 million and 286 billion Btu per year.

Alternative Financing Awards to Small Groups

Jose Cao-Garcia
Richard H. Crowson
Brian J. McCarthy
Nathaniel James Pines
Hilario L. Silverio
U.S. Embassy Seoul Geothermal ESPC
Department of State
Seoul, Korea

The Department of State is the first to advance FEMP’s Super Geothermal Heat Exchange ESPC internationally with a project at the U.S. Embassy Seoul, Korea. Geothermal heat exchangers will replace inefficient oil furnaces and window air conditioners in 157 housing units and the Ambassador’s residence. The $5.1 million contract will span 19 years with total cost savings of $12 million and energy savings of 568 billion Btu. The units will provide a cleaner, healthier environment for U.S. Embassy personnel living in these residences. This project sets an example of the best in U.S. environmental technology and alternative financing.
Alternative Financing Awards to Small Groups

Harry K. Atkins
Perry L. Boeschen
Suvit S. Boyd
Chuck Korytowski
Tony Pensick
Lincoln Energy Conservation Project
General Services Administration, Region 6
Kansas City, Missouri

The Lincoln Energy Conservation Project was the first project completed with the Department of Energy's Super ESRC contract by the General Services Administration (GSA) Region 6. Using $3.78 million in funding earmarked for replacement of CFC containing chillers and installing an energy management system, the Lincoln Team took a “whole building approach” to complete the project. The $4.4 million contract includes replacing the CFC chillers, installing a building-wide direct digital control system for energy management, converting multi-zone air handling systems to variable air volume, retrofitting light fixtures, replacing steam traps, retrofitting the controls of the boilers, and installing water conserving plumbing fixtures. In order to complete all of the required work, GSA borrowed more than $300,000. Reductions of $119,966 and 23.7 million Btu of annual savings for the building have been realized. The project’s annual savings are guaranteed, and the loan will be paid off in only 5 years.
Alternative Financing Awards to Small Groups

Charles Evans
Stan Hall
Paul Pimentel, PE
Floria Standifer
Timothy Wisner
Atlanta Energy Performance Contract
General Services Administration
Atlanta, Georgia

The Atlanta Energy Performance Contract is a DOE Super ESPC energy project incorporating the major Federal facilities of the General Services Administration’s (GSA) Atlanta Property Management Center. The project demonstrates exceptional entrepreneurial drive in achieving the energy reduction requirements of Executive Order 13123. Following the Environmental Protection Agency’s (EPA) ENERGY STAR® building methodologies, the project resulted in phenomenal energy savings – more than 30 billion Btu annually – enough to power 990 homes for 1 year. The project has received national recognition by attaining both the DOE Federal Energy Saver Showcase designation and the EPA ENERGY STAR® building certification for the Richard B. Russell Federal Building.

Alternative Financing Awards to Individuals

Cathe A. Grosshandler
United States Postal Service
Anchorage, Alaska

Cathe Grosshandler used innovative and creative alternative financing strategies to implement a demonstration project that saved the United States Postal Service (USPS) Anchorage General Mail Facility (GMF) more than $1 million. During the initial investigation, the USPS GMF was discovered to have a backup generator with a diesel underground storage tank that would not meet the 1998 EPA underground storage tank regulations. While looking into tank replacement options, Ms. Grosshandler discovered that a recent facility expansion had created some load problems, inspiring her to implement an alternative energy project. The project provides “green” power to the 300,000 square foot facility and is able to prevent the interruption of mail processing operations caused by power grid outages. Ms. Grosshandler’s innovative efforts and perseverance brought this project to fruition.
The Department of the Navy in Hawaii is transforming the market for solar water heating systems in the United States. Taking advantage of incentives offered by the local electric utility company, Hawaiian Electric Company (HECO), the Navy installed approximately 2,000 solar water heating systems on Navy housing units by the end of 2000. Additional solar energy systems are already under construction during 2001 and planned for during 2002 on Navy and Marine Corps Bases in Hawaii. In fact, the Navy's goal is to install solar panels in as many new housing projects as possible. Nearly all of the hot water requirements for these units will be from solar energy, and each system is sized to provide a minimum of 90 percent of the hot water heating requirements. The Navy installed 1,703 solar water heating systems through 2000 at a cost of $1.8 million to the Navy after HECO paid nearly $2.25 million in rebates, saving 14.5 billion Btu and $400,000 annually.

The General Services Administration (GSA), Environmental Protection Agency (EPA), and the Department of Energy (DOE) formed a multi-agency team to implement a 10 kilowatt solar photovoltaic system for the Ralph H. Metcalfe Building, EPA Region 5 Headquarters in Chicago, Illinois. The team developed and implemented a photovoltaic (PV) solar cell system that demonstrates a non-polluting, renewable energy approach for generating supplemental electricity for building operations. The photovoltaic system, which consists of 84 panels, will reduce carbon dioxide emissions by more than 20,000 lbs per year, equal to the emissions produced from driving an average passenger car 25,117 miles—or once around the world. In addition, an interactive kiosk system that displays the actual energy production of the PV panels is located in the Metcalfe Building lobby. Funded by DOE, this kiosk will be expanded to educate the general public about the benefits of the PV system and will also include segments on other types of renewable energy. The electricity generated from renewable energy offsets more than 61 million Btu yearly.
Renewable Energy Awards to Small Groups

Patrick Dawson
Steve White
National Capitol Region
General Services Administration
Washington, D.C.

The General Services Administration’s National Capital Region (GSA/NCR) has installed a 100-kilowatt photovoltaic power system at the Suitland Federal Center in Suitland, Maryland, operational since the fall of 2000. This facility showcases renewable energy technology in the National Capital Region. Coordinated through GSA/NCR’s Maintenance and Energy Branch, the project was funded by the GSA National Energy Center of Expertise. The largest installation to date in the Million Solar Roofs Initiative, this highly visible demonstration project serves as a working model for future photovoltaic installations. It reduces the Suitland Federal Center’s conventional energy needs and offsets production of air pollutants and greenhouse gases. An on-site educational kiosk describes the plant’s operation and provides current corresponding emissions reductions. Tours will be conducted for students, business leaders, community activists, and elected officials. The project is saving more than 528 million Btu and $58,000 per year.

Renewable Energy Awards to Small Groups

Rhonda Brooks
Kent Bullard
Keith Duran
Channel Islands National Park, National Park Service, Department of the Interior
Ventura, California

The Channel Islands National Park research vessel, Pacific Ranger, underwent a greening project that reduces its environmental impact while operating in sensitive marine areas. For the past 20 years, the vessel has regularly served as the Park research platform and has consumed more than 185,000 gallons of petroleum diesel fuel. Changes made to eliminate further petroleum diesel fuel consumption include utilizing re-refined motor oils and a “Purafiner” filter system, using battery storage and AC inverters instead of generators, installing a “Bulbous Bow” that reduces friction in the water, and operating the vessel on 100 percent biodiesel fuel. This conservation project reduced the fuel consumption of the Pacific Ranger by 24 percent and eliminated the use of more than 10,000 gallons of petroleum diesel fuel annually. The project reduced demand on petroleum resources, decreased exhaust emissions, demonstrated alternative fuels in marine service, and made the Pacific Ranger petroleum free.
Energy Efficiency/Energy Management Awards to Organizations

Navy Region Southwest Department of the Navy San Diego, California

Navy Region Southwest (NRSW) played a major role in helping its local utility avoid outages during last summer's energy crisis in California. Innovative and far-reaching demand-side initiatives accounted for the success of their efforts. By adopting new practices, NRSW helped avert Stage 3 alerts and regional rolling outages. New practices include implementing a Resource Efficiency Management program to demonstrate innovative methods of optimizing business practices while reducing costs and enhancing facility operations. New technologies are also being presented such as MVWeb, a Web-based demand management system that identifies electricity anomalies and demand reduction opportunities. NRSW also used distributed generation, including photovoltaics and microturbines, as a part of their strategy. These practices have resulted in savings of 58 billion Btu and approximately $1 million for FY 2000.

Lieutenant Commander Wade Wilhelm and Captain Jack Surash

Energy Efficiency/Energy Management Awards to Organizations

Pacific Northwest National Laboratory Department of Energy Richland, Washington

Pacific Northwest National Laboratory (PNNL) has 3,500 staff in 2 million square feet of building space. In March 2000, PNNL initiated a campaign to recommission its buildings and restructure building operations to run more effectively and efficiently. Energy saving strategies included fine-tuning the HVAC system, adjusting temperatures, and implementing more night setbacks. Savings from this no-cost campaign were 23 billion Btu of energy - 61,632 therms of natural gas and 5 million kilowatt hours of electricity - compared with energy consumption for March through December 2000. PNNL thus avoided more than $180,000 in expected energy costs.

Mike Moran
Energy Efficiency/Energy Management Awards to Organizations

NAVSEA Carderock, Surface Warfare Center Division, Department of the Navy, Bethesda, Maryland

The NAVSEA Carderock Surface Warfare Center Division had a successful year in 2000, reaping the benefits of its energy efficiency measures by reducing energy consumption by more than 37 billion Btu and saving more than $470,000. After replacing a steam heating system with a gas-fired package boiler and achieving a cost avoidance of nearly $500,000, they turned to automatic controls to wring out further savings. In 2000, Carderock replaced its 15-year-old Energy Management Control System with state-of-the-art Direct Digital Control systems in 13 buildings. Carderock also completely renovated restroom facilities in three buildings, replacing and reducing the number of fixtures on site. All replacement fixtures are water-efficient and employ state-of-the-art electronic controls. Lights and exhaust fans in the renovated facilities are also automatically controlled using motion-sensing technology. Carderock is also attempting to decrease consumption of petroleum energy sources by using propane and electric ground transportation vehicles, and is promoting alternative transportation among employees to further reduce emissions.

Radford Army Ammunition Plant, Department of the Army, Radford, Virginia

The Radford Army Ammunition Plant is actively pursuing energy conservation through the implementation of energy projects and energy conservation awareness. The decrease in energy consumed resulted in fuel savings of more than $350,000 and 230 billion Btu. These savings were due primarily to the continued emphasis on low cost/no cost energy conservation initiatives and increased Nitrocotton/Nitrocellulose production, which reduced the magnitude of steam line losses as a percentage of total plant steam. Projects included installing an oxygen trim for powerhouse boilers, reducing reactive power charges from American Electric Power, and varying steam turbine extraction pressures. Increasing plant energy conservation awareness and implementing energy conservation projects also contributed to savings at the plant.
Energy Efficiency/Energy Management Awards to Organizations

U.S. Army Europe 6th Area Support Group
Department of the Army
Stuttgart, Germany

During FY 2000, the U.S. Army Europe’s 6th Area Support Group (ASG) continued its successful energy program through implementation of numerous energy and water management projects, energy audits, and an active energy awareness program that has reduced energy intensity by 8 percent versus FY 1999 levels. The energy reductions translate to cost avoidance and savings of more than $1 million. During FY 2000, the 6th ASG invested and implemented $450,000 in energy conservation projects. A major effort included retrofitting more than 80,000 exit signs throughout 80 buildings with new light emitting diodes, installing approximately 400 motion sensors in 40 buildings to turn off lights during unoccupied hours, and using photo cells to control outside lighting. Total energy savings for the 6th ASG is more than 96 billion Btu.

Energy Efficiency/Energy Management Awards to Organizations

Holston Army Ammunition Plant
Department of the Army
Kingsport, Tennessee

For FY 2000, Holston’s energy usage decreased by 1.7 percent, resulting in a coal and electricity cost reduction of 5.4 percent and 4.4 percent, respectively, from FY 1999 levels. This reduction is more significant when considering that no coal was produced in FY 1999, but 2.5 million lbs of coal were produced during FY 2000. Energy saving measures included low cost/no cost maintenance efforts such as peak demand shaving, steam trap maintenance, and reduction of steam pressure. Projects at the plant such as the modernization of the Explosive Plant also contributed to energy reduction. Energy conservation initiatives implemented during FY 2000 that contributed to Holston’s energy performance were estimated to have reduced the plant’s energy usage by more than 72.2 billion Btu and energy costs by more than $1 million.
In order to meet and exceed the Federally mandated energy reduction goals set forth in Executive Order 13123, the 17th Training Wing Energy Team continually strives to find new ways to improve energy conservation throughout Goodfellow Air Force Base. The Energy Team manages all areas of conservation from energy management to HVAC improvements. Together, the Team made Goodfellow AFB a leader in energy awareness and conservation. During FY 2000, the Energy Team implemented a $3 million ESPC with the Army Corps of Engineers. Nine new energy saving HVAC projects, extensive updates and improvements to the Energy Management Control System, and a highly visible energy awareness program contributed to savings of more than 25 billion Btu and $246,000 per year for the Base.

The Zion National Park Visitor Center design process was a collaborative effort between the National Park Service’s Denver Service Center and the Department of Energy’s National Renewable Energy Laboratory (NREL). Team members from NREL’s Buildings and Thermal Systems Center provided technical support to optimize the energy performance of the building. The Denver Service Center developed the architectural design with input from NREL about the energy implications of design decisions. This “whole-building systems integration” process started in pre-design and continued through to commissioning occupancy. The project resulted in a building that uses 66 percent less energy than code and is virtually immune to the frequent power outages in the region. The project represents a synthesis of passive heating, cooling, and daylighting, energy efficiency, and photovoltaic technology. Shading, natural ventilation, passive evaporative cool-towers, clerestories, trombe walls, direct solar gain, thermal mass, high efficiency lights, and 7 kilowatts of photovoltaics all work together to nearly eliminate loads. The project resulted in cost savings of more than $10,000 and 309 million Btu in site energy and 1 billion Btu in source energy.
The Department of the Navy Euro-Med Acquisition Team designed an ESPC in a record 6 months and 11 days from requirement identification to contract and first project award. Not only was the speed of the ESPC development impressive, but it was done while meeting the special needs of seven separate foreign countries and was accomplished by team members spread across nine time zones. The Navy will avoid $1.3 million in annual energy-related costs and 185 billion Btu due to the implementation of energy conservation measures 1 year in advance of previous lead times. The Navy accomplished the energy reductions by effectively integrating the technical requirements of performance contracting and the streamlined processes of fast track source selection. Projects at Naval Air Station Sigonella (Italy), Naval Air Station Rota (Spain), and Naval Activities United Kingdom are in progress as of December 2000, and would not have been contemplated if the acquisition streamlining procedures had not been implemented.

One of two Naval facilities designated as a Federal Energy Saver Showcase, Building 850 at Naval Base Ventura County has been designed to fully demonstrate state-of-the-art technologies. The building is designed to make use of 100 percent natural daylighting, and has zero net energy usage from the electric utility. Sustainable building design technologies and products are incorporated throughout the building, and its renewable energy technologies include a 31 kilovolt-ampere photovoltaic (PV) array and a solar water heating system. Excess power not used by Building 850 is routed to the electrical grid for use by other base requirements. The PV system also provides non-interruptible power to computers, lighting, ventilation, and control systems. While the energy savings are substantial in Building 850, even greater value will be realized through the replication and the adoption of the building’s cutting-edge technologies by other public and private sector organizations.
Innovative/New Technology Awards to Organizations

The John Heinz National Wildlife Refuge at Tinicum
Fish and Wildlife Service
Department of the Interior
Philadelphia, Pennsylvania

The new Cusano Environmental Education Center at the John Heinz National Wildlife Refuge in Tinicum, Pennsylvania, is a model for the conservation and efficient use of energy and water. The center incorporates geothermal heating and cooling, energy efficient lighting, a well-insulated building envelope, and natural daylighting to reduce building energy consumption. Other sustainable design strategies include use of green building materials with significant recycled content. The geothermal heating and cooling system alone is estimated to save approximately 25 percent of the energy compared to a conventional system. In addition, the center has implemented an innovative on-site “marsh machine,” an organic wastewater treatment plant. Estimated savings for the project include $3,850 for the geothermal heat pump alone and more than 119 million Btu for FY 2000.

Innovative/New Technology Awards to Small Groups

Jerard Butler
Barbara McPhelim
Ken Shutika
Don Stiteler
Aggregate Power Procurement Team
General Services Administration - Mid-Atlantic Region
Philadelphia, Pennsylvania

The General Services Administration (GSA) Mid-Atlantic Region combined the electric requirements of six of their sites with the electric requirements of two non-GSA accounts, and went looking to buy with the combined requirement of 3 million kilowatt hours of renewable electricity. The innovative aggregate power purchase approach resulted in an account large enough to entice very competitive pricing. The method allowed GSA to purchase 100 percent renewable power from 100 percent renewable resources with little or no price premium versus long-term regulated rates. The GSA purchased Green-E certified biomass electricity. The contract was GSA’s first procurement for renewable power in Pennsylvania.
Innovative/New Technology Awards to Small Groups

Patrina Eiffert
Nate Eisenpress
Kendall Kam
Stephen Meder
Art Seki
Ford Island Boathouse Building Integrated PV System
Department of the Navy
Pearl Harbor, Hawaii

A partnership between the Commander Navy Region Hawaii; Pacific Division, Naval Facilities Engineering Command; Hawaiian Electric Company; the National Renewable Energy Laboratory; and the University of Hawaii resulted in the installation of a 2.8 kilowatt building-integrated photovoltaic (PV) roof system on the Ford Island boathouse in Pearl Harbor. This demonstration project generates nearly 3 kilowatts of electricity under full sun from a series of PV modules imbedded into the roofing material of the boathouse. The system generates nearly 5,000 kilowatt hours per year, producing an annual savings of approximately $500. The project is helping the Navy to evaluate the potential use of PV systems integrated with building materials to help meet electricity requirements and its use as an emission reduction strategy. The system is estimated to save more than 16.6 million Btu per year.

Effective Program Implementation and Management Awards to Organizations

You Have the Power Campaign
Interagency
Washington, DC

Recognizing that personal behavior is critically important to reducing energy consumption, the You Have the Power Energy Awareness Campaign was launched by DOE’s Federal Energy Management Program in 1997 to assist Federal energy managers in spreading the word about energy-efficient practices and products, as well as facilitate partnerships with energy-related organizations in the private sector. Now in its fifth year, the campaign instills energy efficiency as a basic value among Federal agencies, private sector companies that work with them, and the general public that use, enjoy, and depend on Federal facilities. The campaign’s theme is designed to give every Federal worker authority to take positive action to implement Federal energy reduction goals. Twenty of the largest Federal agencies participate in the You Have the Power campaign. Along with hosting Interagency planning meetings, working with agency Coordinators on a one-on-one basis, and utilizing a wide array of outreach materials and events, the campaign recognizes Energy Champions who have developed and advocated innovative practices at their agencies that save energy and money and improve the efficiency of the Federal government. During FY 2000, the campaign recognized 71 new Federal Energy Champions, bringing the total number of Energy Champions to 296 since the inception of the campaign.

(Left to right) Tim Arthurs, State; Phil Wirdzek, Environmental Protection Agency; Scott Waldman, Health and Human Services; Jeff Hager, Army; Scott Howard, Social Security Administration; Jennifer Landsman-Ayres, Carl Costello, Greening America; Rajinder Garg, Veterans Affairs; Sharon Holcombe, Agriculture; Bill Lawrence, Justice; George Kuehn, Transportation; Beth Shearer, FEMP Director; Annie Haskins, You Have the Power Program Manager; Pat Clark, Labor; Paul Fennewald, USPS; John Moresko, Interior

Not present: K. Quinn Hart, Air Force; Jim Woods, Commerce; Nellie Tibbs-Greer, Energy; Mark Ewing, General Services Administration; Tom Hamilton, Housing and Urban Development; Rich Wickman, NASA; Jose Maniwang, Navy; and Bill McGovern, Treasury
Effective Program Implementation and Management Awards to Organizations

**NAVSEA Crane, Surface Warfare Center Division**  
**Department of Navy**  
**Crane, Indiana**

The NAVSEA Crane, Surface Warfare Center Division in Crane, Indiana, targeted the improvement of the Center’s heating and air conditioning systems. After pinpointing high energy-consuming buildings through analysis of utility bills, Crane enlisted the support of its 96 Building Energy Monitors and Public Works Inspectors to perform building envelope surveys and identify and correct cold air infiltration and areas of heat loss. The result was a solid success with a 21 percent reduction in Btu during winter months and a major steam trap repair effort that saved 10 million Btu and $68,000 per year. Crane also repaired steam leaks, saving $37,901. In the summer, a major effort went into repairing or replacing thermostat controls and optimizing systems. The thermostat replacement is saving more than 7 billion Btu annually with a cost savings of $48,409 per year. The effort resulted in a 2 percent reduction in Btu during summer months. Energy consumption was reduced by 8.3 percent for FY 2000 as a result of Crane’s diligent efforts. By implementing the basic principles of energy management: contain, control, and optimization, as well as utilizing employee awareness and outreach activities, the Crane Energy Management Program is maximizing the Center’s energy benefits.

Effective Program Implementation and Management Awards to Organizations

**Property Management Division**  
**Great Lakes Region**  
**General Services Administration**  
**Chicago, Illinois**

The General Services Administration’s Great Lakes Region is focusing significant attention on older and historic Federal courthouses as a part of its Courthouse Energy Renovation Program. The courthouses, most of which are between 69 and 101 years old, are in need of significant upgrades. Funds from the Energy Center of Expertise allowed for whole building retrofits of three Federal courthouses in Indianapolis, Indiana; Milwaukee, Wisconsin; and South Bend, Indiana. More than $1.44 million was invested in the three courthouses saving more than 13 billion Btu and $168,000 annually. All three courthouses qualified for the ENERGY STAR® label during 2000 and have received numerous other building awards. The whole building retrofits for the courthouses included energy management system improvements, lighting upgrades, steam trap replacements, and direct digital control upgrades.
In an effort to provide full lighting efficiency services to eight U.S. Missions that would otherwise be unable to support such projects, managers from the State Department’s Utility Management Program teamed up with the DOE’s Bonneville Power Administration and Energy Wise Lighting, a private contractor. Many of the project locations are in areas where utility costs are high, utility availability is uncertain, and mission maintenance staff is strained or non-existent. For FY 2000, the project saved $188,365 and more than 5 billion Btu during FY 2000. The U.S. Missions receiving the benefit of these lighting services include Singapore; Ulaanbaatar, Mongolia; Phnom Penh and Laos, Cambodia; Ho Chi Minh City, Vietnam; Bogota, Colombia; Djibouti, Republic of Djibouti; Havana, Cuba; and Tbilisi, Republic of Georgia. By minimizing overall costs and maximizing utility services to U.S. Missions, the State Department’s Utility Management Program reaches many diverse locations around the world.

During FY 2000 alone, the Energy Team completed three projects that resulted in significant energy and maintenance savings and allowed the needed replacement of aging equipment. Two of these projects were financed through an ESPC and one was funded outright. The three projects, encompassing 26 GSA buildings in Texas, will save more than 30 billion Btu and $740,000 per year in energy, water, and maintenance costs. The largest project is a $3.97 million, multiple-building ESPC project covering seven GSA buildings in the Austin, Texas area. The Energy Team’s work has provided a substantial and much needed supplement to the limited funds available for updating, repairing, and maintaining the region’s Federal properties.
Effective Program Implementation and Management Awards to Small Groups

LTC Carmen Anderson
LTC Scott Ayres, PE, CEM
CW 3 Rickey Johns, CEM
LTC Don Juhasz, ME, CEM
Mr. Sam Truax, PE, CEM
Army National Guard
Department of the Army
Arlington, Virginia

With its broad-based energy program, the Army National Guard’s Energy Working Group serves 29,608 facilities in all 50 states and several U.S. Territories. During FY 2000, the Energy Working Group assisted in the development and implementation of energy projects totaling more than $5.3 million, including the first Energy Conservation Investment Program military construction project that was awarded for $850,000. Eight comprehensive energy audits were completed at 122 facilities resulting in 378 projects with a first year savings of $1.2 million. The Energy Working Group managed wind data and installed a 225-kilowatt wind turbine with an annual savings of $22,000. To enhance energy awareness, the Energy Working Group provided two energy manager training courses and an executive course for 127 energy managers and the Army National Guard’s leadership. The group also hosted Army National Guard Day at Energy 2000 for approximately 90 participants and presented energy awareness briefings at the Army National Guard’s National Engineering Conference for 328 Army National Guard engineering participants.

Effective Program Implementation and Management Awards to Individuals

Thomas W. Waller
Columbus Air Force Base
United States Air Force
Columbus Air Force Base, Missouri

Assertive energy management and consistent dedication are just a few of the exemplary characteristics that Thomas Waller brings to the Energy Program at Columbus Air Force Base. His technical expertise and mission-minded service have improved the base’s infrastructure, reduced maintenance requirements, and increased operations. Through Mr. Waller’s efforts, the highlight of Columbus AFB’s Energy Program is a phenomenal increase of nearly 11 percent in energy efficiency at the Base. During FY 2000, Mr. Waller partnered with the Tennessee Valley Authority to analyze the potential application of capacitor banks to lower the power factor of Columbus AFB’s electric service. Doing so reduced the base’s summer cooling costs by $3,000 per month. Under Mr. Waller’s leadership, the Energy Program’s “Tiger” Team conducted a comprehensive facility review targeting not only the HVAC system, but other factors that change its efficiency and optimization. The Team initiated an energy monitoring and control system-supported trend log analyses and hands-on facility surveys. The evaluations will result in an estimated annual energy savings of 205 million Btu. During FY 2000, Mr. Waller also reviewed $2.3 million in construction projects for energy efficiency by using his engineering expertise, a highly-coordinated systems approach, and a thorough assessment of all energy-related systems. In addition, his rigorous implementation of ESPC contracting has proven its effectiveness. Mr. Waller’s consistent efforts during FY 2000 made the year an outstanding success for the Columbus AFB Energy Program.
Effective Program Implementation and Management Awards to Individuals

Garland Scott
Randolph Air Force Base
United States Air Force
Randolph Air Force Base, Texas

Spearheading one of the most effective and efficient energy programs in the Air Force, Garland Scott brings 25 years of energy management experience and knowledge to the 13 Air Force installations at Randolph Air Force Base, Texas. Mr. Scott’s dedication to the Air Education and Training Command (AETC) Energy Management Program has been instrumental in AETC achieving a 22.2 percent reduction over its 1985 baseline. He developed and implemented the AETC Energy Management Incentive Award in which 13 Air Force installations compete for $100,000 each year for their Energy Awareness and Conservation Programs. The program has sparked genuine interest within the command and has contributed to AETC consistently meeting or exceeding energy reduction goals. Mr. Scott's efforts to finance energy efficiency improvements have resulted in the development of 15 ESPC task orders totaling $44 million. The ESPCs will result in a cumulative reduction in energy savings of $5.2 million per year and 287 billion Btu per year with a total of 5.1 trillion Btu saved over the life of the contracts. He was also responsible for developing ten task orders for utility energy service contracts. Mr. Scott’s other noteworthy accomplishments at Randolph AFB include the installation of a 1.2 million gallon thermal energy storage tank, central chiller plant tie-ins for six additional facilities, removal of six energy-hog chillers, and automatic controls to capture peak-load savings. The upgrade to the Base became a model for several other initiatives at AETC. Mr. Scott’s keen knowledge of the energy field coupled with his extraordinary knowledge and involvement in alternative financing have proven critical to the successful implementation of over $200 million in projects.

Exceptional Service Awards to Individuals

Ron Durfey
United States Marine Corps
Yuma, Arizona

Located in the Southwest corner of Arizona, the Marine Corps Air Station (MCAS) Yuma is the most heavily utilized air facility in the Marine Corps. Because of its location and mission requirements, the MCAS had to be both creative and versatile in dealing with energy and water usage that directly affect productivity and working conditions at the Air Station and the quality of life for Marine Corps personnel and family members. With dwindling Federal funding available for energy conservation, Mr. Durfey was one of the first energy managers to implement guidance issued by Headquarters, Marine Corps to utilize alternative financing to execute energy efficiency projects. These projects include lighting retrofits, replacement of antiquated motor generators, and recommissioning of thermal energy storage units. Under Mr. Durfey’s leadership, MCAS Yuma has reduced energy consumption at its shore facilities by more than 25 percent versus the 1985 baseline.
Exceptional Service Awards to Individuals

William G. King, Jr.
United States Air Force
Eielson Air Force Base, Alaska

William King’s innovative approach to energy management has consistently helped to save energy and improve the efficiency on Eielson Air Force Base. His tireless efforts during FY 2000 will result in an energy and water savings performance contract that will save approximately 24 billion Btu per year, equating to more than $330,000 saved annually. His expertise in renewable energy sources ensured the conversion of 1,505 tons of solid waste into a usable fuel source for Eielson Air Force Base. Mr. King’s impressive knowledge of utility systems was instrumental in the planning, design, and construction of several distribution projects that may save the Base over $3 million in energy costs annually.

Exceptional Service Awards to Individuals

Gene McCann
Mike Monroney Aeronautical Center Academy
Federal Aviation Administration
Department of Transportation
Oklahoma City, Oklahoma

Gene McCann is the energy coordinator of the Academy organization at Mike Monroney Aeronautical Center’s (MMAC) largest single energy-consuming entity. As energy coordinator, Mr. McCann undertook an energetic campaign to instill new attitudes about and commitment to energy conservation in a complex organization. The Academy’s mission requires providing diverse training classes and operating major energy-consuming equipment beyond normal office hours. Conserving energy would require that MMAC’s systems be operated differently. The Academy’s energy consumption was not being reduced nearly enough to comply with Federal mandates of MMAC’s reduction goals. Mr. McCann has been successful in incorporating energy efficiency in all new and renovation construction projects. Directly due to Mr. McCann’s perseverance and imaginative campaigning, the Academy has become one of the most energy conscious and efficient organizations within MMAC. His accomplishments include establishing an energy conservation team, developing an Academy energy conservation plan, and exceeding quarterly goals by 7 percent, remarkably through one of the coldest winters on record. As a result of Mr. McCann’s efforts, MMAC saved more than $134,000 and 13 billion Btu during FY 2000.
Director’s Award to Individuals

Chief James Trocke
United States Marine Corps
U.S. Marine Corps Air Station, Iwakuni

Chief James Trocke is receiving the 2001 Director’s award for his role in three projects undertaken during FY 2000. As Air Station Energy Manager, Chief Trocke orchestrated Energy Awareness Week 2000, full of fun and innovative events that encouraged all Air Station residents to focus on energy conservation and usage. On a regular basis, Chief Trocke ensures that the Air Station is using its limited and expensive resources to their fullest. Renegotiation of the base’s electrical billing rates, implementation of an aggressive underground pipeline water leak detection plan, and a comprehensive energy conservation awareness program are just a few outstanding achievements Chief Trocke spearheaded during FY 2000. To combat the long term effects of incurring new electrical consumption peak levels, the Marine Corps Air Station Iwakuni, Japan and Chief Trocke implemented a comprehensive action plan called “Green Out” during FY 2000. Recognizing the costly nature of setting new electrical consumption peaks, the command implemented a comprehensive, power shaving plan to reduce electrical loads during critical time periods. Aggressive on-Base media coverage and Base-wide flash e-mail messages on all station personal computers ensured that all electrical power users participated in reducing office, household, and workplace usage where feasible. As a result of the entire Air Station’s cooperation in this program, new electrical peak charges were avoided. This Base-wide effort, along with Mr. Trocke’s personal achievements, have saved the Iwakuni Air Station more than 50 billion Btu and more than $1.5 million.

Lou R. Harris Jr. Award

David Waller
Hawaiian Electric Company
Honolulu, Hawaii

David Waller works to form partnerships with Federal agencies in Hawaii to help them achieve the goals outlined in Executive Order 13123. Mr. Waller accomplishes this task by installing energy efficient technologies, employing water conservation measures, and incorporating the use of renewable energy at Federal facilities. Mr. Waller provides leadership and overall management responsibility for the Energy Services Department at the Hawaiian Electric Company (HECO). Mr. Waller’s professional standards of excellence are exemplified in his technical and team-building expertise. His efforts to develop partnerships between HECO and its Federal customers are focused on cooperatively accomplishing mutual objectives that include achieving energy and cost savings and environmental benefits, improving work environments, and promoting economic development and job creation. Under Mr. Waller’s guidance, “A Partnership to Save Energy” has resulted in a number of successful partnerships between Hawaiian Electric Company and a number of Federal agencies, including the General Services Administration, Department of Defense, United States Postal Service, Department of Energy, and the Environmental Protection Agency. Mr. Waller was also involved in implementing HECO’s own Green Lights Program which, through a major conversion to efficient lighting, now saves the company 1.3 million kilowatts per year.
Lou R. Harris J r. Award

Captain John E. Surash

Department of the Navy

San Diego, California

As Assistant Chief of Staff for facilities, Captain John E. “Jack” Surash plays a key leadership role in maintaining the energy efficiency of the Navy Region Southwest (NRSW). In partnership with the Southwest Division, Naval Facilities Engineering Command (SOUTH WEST DIV), Captain Surash initiated an aggressive program to upgrade the energy efficiency of NRSW facilities throughout the San Diego area through SOUTH WEST DIV’s Utility Energy Service Contract (UESC) with San Diego Gas & Electric. The projects performed under the UESC offer over $5 million per year in energy savings with a simple payback of less than 10 years. In addition to advancing the energy efficiency of NRSW facilities through UESC contracting, Captain Surash established a Regional Energy Program Office (REPO) to manage NRSW’s energy programs. He also established one of the Federal government’s first resource efficiency management contracts to provide expert support to REPO, and built strong partnerships with SOUTH WEST DIV, the Federal Energy Management Program, the Department of Energy National Laboratories, the Federal Utility Partnership Working Group, and San Diego area local governments and community groups. Captain Surash’s accomplishments were demonstrated during the California energy crisis, when he mobilized his team and enlisted the help of his partner organizations to counter the effects of the crisis and to help address its root causes. As a direct result of Captain Surash’s efforts, three NRSW bases in San Diego achieved a cumulative 11 percent reduction in shore facility electricity consumption since July 2000 compared to the same period last year.

ENERGY STAR® Building Award for Superior Performance

ENERGY STAR® is a symbol of energy efficiency established by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). Buildings that are among the top 25 percent nationwide in terms of energy performance (earning a benchmarking score of 75 or greater) and maintain an indoor environment that conforms to industry standards can qualify to receive the ENERGY STAR® label for buildings.

In FY 2000 the following buildings, operated and maintained by the General Services Administration (GSA), achieved a benchmarking score of 95 or higher:

- Prince Kuhio Kalanianole Federal Building, U.S. Courthouse, Honolulu, Hawaii
- El Paso Federal Office Building, El Paso, Texas
- Federal Building, U.S. Courthouse, Lafayette, Louisiana
- Federal Building, Tucson, Arizona
- U.S. Customhouse, New Orleans, Louisiana
- A. Maceo Smith Federal Building, Dallas, Texas
- Federal Building, U.S. Courthouse, Las Vegas, Nevada
- Chet Holifield Federal Building, Laguna Niguel, California

The superior performance rating of these Federal buildings reflects the leadership, dedication, and contributions of GSA building designers, operators, and managers who are responsible for the Federal government’s real property assets.
Eighteen outstanding Federal facilities were awarded Federal Energy Saver Showcase designation in 2001. These 18 facilities are expected to save the government 50 million kilowatt hours of energy, or about $2 million in energy costs, each year.

Since 1995, FEMP has recognized more than 70 facilities across the country as Federal Energy Saver Showcases. Located throughout the Nation, this year’s showcase facilities utilize technologies and strategies that range from a comprehensive energy retrofit project of a 29-building Federal facility campus and an installation of the nation’s largest commercial fuel cell system to the use of off-the-shelf energy-saving technologies. Each facility nominated by their respective agencies features energy efficiency, renewable energy, or water conservation technologies designed to save natural resources and reduce operating costs.
Despite their limited building and maintenance budget, the USDA made effective use of off-the-shelf technologies to save energy and conserve water. A new building control system, electrical duty timers, and boiler combustion analysis reduces energy consumption by almost 35 percent, while new water pressure pumps and setback timers on the high pressure steam boilers save more than 400 million gallons of water each year.

This low-maintenance, energy efficient building is designed so that the HVAC and lighting systems use up to 30 percent less energy than a conventional building. Energy savings are achieved through the use of high-efficiency HVAC and lighting systems, passive solar design to maximize natural daylighting and minimize solar heat gains, while use of recycled and non-toxic materials help to meet sustainable design goals and improve indoor air quality.

This Leadership in Energy and Environmental Design (LEED)-certified sustainable design project, the first of its kind for the Navy, entailed design and construction of nine new dormitory facilities to house more than 2,000 sailors. As part of the sustainable design process, energy efficiency goals were established and the project was designed to minimize impact on undeveloped land and make use of existing utilities and transportation infrastructure.
Department of Energy

**Fermi National Accelerator Laboratory**  
**Batavia, Illinois**

Since the inception of the Laboratory’s utility-based, alternatively-financed, campus-wide energy efficiency program in 2000, energy-efficient lighting systems, occupancy sensors, and direct digital controls have been installed and transformers, motors, and cooling towers have been replaced. Replacement and reconfiguration of the cooling towers and compressors used in the Central Helium Liquefier Plant have produced additional energy and operational efficiencies, resulting in 30 percent savings.

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Department of Health and Human Services

**Albuquerque Public Health Service Indian Hospital**  
**Albuquerque, New Mexico**

To reduce energy use, and associated costs of the existing HVAC system, a geothermal heating and cooling system consisting of 210 closed-loop boreholes was installed. To further improve efficiency, the system was upgraded with variable speed pumps and direct digital controllers.

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United States Postal Service

**Center Ossipee Post Office**  
**Center Ossipee, New Hampshire**

This project was completed as part of a district-wide energy efficiency retrofit program, saving significant energy and dollars. With the installation of efficient lighting upgrades and LED exit lights, the Post Office achieved 40 percent energy savings per square foot. Future upgrades for the New Hampshire district include installation of setback thermostats, hot water heater timers, and point-of-use hot water heaters.
Department of the Interior  
Fish and Wildlife Service

Cusano Environmental Education Center  
John Heinz National Wildlife Refuge at Tinicum  
Philadelphia, Pennsylvania

This innovative new building incorporates geothermal heating and cooling, energy-efficient lighting, a well-insulated building envelope, and natural daylighting to reduce building energy consumption, improve occupant comfort, and demonstrate the center’s mission to the thousands of visitors expected each year. Other sustainable design strategies include use of recycled materials and an on-site “marsh machine,” an organic wastewater treatment plant.

Department of State

Florida Regional Center  
Oakland Park Facility  
Ft. Lauderdale, Florida

This “solar showcase facility” demonstrates the cost and energy saving potential of solar energy sources in geographic locations best suited for their application. Solar photovoltaic panels power parking lot lights to provide much-needed evening illumination for the building’s parking lot, and flat-plate solar collectors mounted on the building’s roof provide heating for domestic hot water.

United States Postal Service

Center Sandwich Post Office  
Center Sandwich, New Hampshire

As part of a district-wide energy efficiency retrofit program, efficient lighting upgrades and LED exit lights are cutting costs and saving energy. This facility, just one of 111 New Hampshire Postal Centers that has undergone these efficiency upgrades, uses 43 percent less energy per square foot. Future upgrades for the entire New Hampshire district include installation of setback thermostats, hot water heater timers, and point-of-use hot water heaters.
Department of Veterans Affairs

Salt Lake City Health Care System
Salt Lake City, Utah

Through a comprehensive energy retrofit project of all 29 buildings on the campus, almost $500,000 will be saved each year in energy costs alone. By using an energy savings performance contract, the center was able to install 16 energy conservation measures, including a solar domestic water heating system, a new medical waste sterilizer, a new chiller plant, and HVAC equipment.

General Services Administration

Ralph H. Metcalfe Federal Building
Chicago, Illinois

The GSA, working with the EPA and the DOE, recently completed a roof-mounted, grid-connected photovoltaic system on the Metcalfe Federal Building. This system not only saves energy, but also reduces carbon dioxide emissions and meets the requirements of the Million Solar Roofs initiative.

United States Postal Service

Anchorage Processing & Distribution Center/
Air Mail Facility
Anchorage, Alaska

The high-tech plant in this facility is powered by five 200-kilowatt natural gas phosphoric acid fuel cells, the nation’s largest commercial fuel cell system. Not only do the fuel cells provide enough electricity to power the entire facility, they also create enough waste heat to meet most of the building’s thermal load, thereby further reducing overall energy consumption.
General Services Administration

Leo W. O’Brian Federal Building
Albany, New York

One of two pilot projects in the Northeast Super ESPC program, this energy efficiency project included installation of building automation systems, energy-efficient lighting, and electric-to-gas conversion of the building’s HVAC and domestic hot water systems. A rebate from the New York State Energy Research and Development Authority made this energy-saving project even more cost-effective.

National Aeronautics and Space Administration

Dryden Flight Research Center
Aircraft Support Facility, Building 1623
Edwards, California

In replacing the oversized and inefficient aircraft hangar heating system in Building 1623 with a modern forced-air system employing a solar ventilation air pre-heating system and modular gas-fired condensing boilers, NASA simultaneously improved indoor air quality, reduced greenhouse gas emissions, and saved energy. Emissions reductions were so significant the boilers no longer require expensive air permitting.

General Services Administration

Richard B. Russell Federal Building
Atlanta, Georgia

This ENERGY STAR® Building incorporates energy-efficient lighting systems together with new high-efficiency and non-CFC HVAC equipment to achieve significant energy and cost savings while providing environmental benefits. An energy savings performance contract was utilized to finance the energy conservation measures rather than use appropriated funds.
Department of Health and Human Services

Program Support Center
Parklawn Building
Rockville, Maryland

Over 2 million kilowatt hours and 6.3 million gallons of water will be saved annually due to the recent installation of energy-efficient lighting upgrades and water-conserving fixtures financed through a utility energy savings contract. More than 90,000 people visit the Parklawn building each year.

Department of the Treasury

Bureau of Engraving and Printing, Main Building
Washington, D.C.

Vintage 1960s cooling towers and chillers were recently replaced with new high-efficiency units, reducing energy consumption by almost 40 percent. In addition, a new carbon fluidized bed/thermal oxidizer, needed to control volatile organic compounds (VOCs) emissions from the currency printing process, significantly reduces natural gas consumption while also reducing nitrous oxide emissions by as much as 96 percent.

United States Postal Service

Gilsum Post Office
Gilsum, New Hampshire

As part of a district-wide energy efficiency retrofit program, efficient lighting upgrades and LED exit lights are saving significant energy and dollars. This highly replicated project saves this facility alone 40 percent in energy per square foot. Future upgrades planned for the entire New Hampshire district include installation of setback thermostats, hot water heater timers, and point-of-use hot water heaters.
SUMMARY

Energy efficiency is the ability to use less energy to produce the same amount of work. For a Federal agency, it means lower energy bills. For the government as a whole, it means making the most of America’s natural resources, lowering reliance on imports, and mitigating impacts on the environment.

Dependable, affordable, and secure energy – with less impact on the environment – is a shared responsibility of every Federal agency. Government personnel at all levels are working to save energy and money for American taxpayers.

Federal agencies are using energy more wisely. Dramatic technological advances in energy efficiency have enabled Federal employees to make great strides in energy savings — from the operation of industrial facilities to the construction of new Federal buildings.

Federal agencies are modernizing and upgrading facilities. Inadequate and antiquated 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 renovate, refurbish, and revitalize our country’s publicly-owned facilities.

Federal agencies are including diverse and distributed energy supplies. Even with efficiency gains and successful conservation efforts, the Federal government is increasing its use of renewable and alternative fuels to ensure the Nation’s energy security.

The Federal government is addressing the President’s National Energy Policy with advanced technology, dedicated leadership, public-private partnerships, and a coordinated plan shared among all Federal agencies. With continued dedication and purpose, America can look forward to dependable, affordable, and secure energy supplies, with less impact on the environment and less cost to the American taxpayer.