

Interior Energy Management News

Volume 1, Issue 2 ▪ Fall 2013

DOI Makes Strides toward Sustainability Bureaus and Offices Make Progress despite Constraints

In this second issue of Interior Energy Management News we continue to highlight achievements that are happening across Interior's bureaus and offices in the areas of energy management and sustainability. The Department applauds these efforts, which come during times of increasing budget uncertainty and increased workloads.

The efforts of bureaus and offices are evident in some of the recognition they have received from various awards programs. The featured article in this issue describes how the U.S. Fish and Wildlife Service has promoted energy and water conservation, as well as sustainable design and practices, through awards programs as they work toward a carbon neutrality goal for the Service by FY 2020. This year's winners of the Federal Energy and Water Management Awards are also detailed in the issue.

As always, the issue contains a section called Bureau Notes, which describes a few key efforts happening in each bureau and office. These projects are a testament to the hard work and ingenuity of DOI's personnel.

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Green Roof, Main Interior Building, Washington, DC. Credit: NPS.

Pushing Hard toward Carbon Neutrality

The U.S. Fish and Wildlife Service's Award-Winning Facilities

The U.S. Fish and Wildlife Service (FWS) is recognized as a Federal leader in energy management and sustainability. As part of its comprehensive "Rising to the Urgent Challenge: Strategic Plan for Responding to Accelerating Climate Change," the FWS has set a goal of becoming carbon neutral by FY 2020. The FWS is striving toward that goal by designing sustainable buildings that comply with the *Guiding Principles for High Performance and Sustainable Buildings*, implementing energy efficiency and renewable energy projects in its facilities and leases, and switching to alternative fuel and hybrid vehicles.

Facility energy consumption is a major source of greenhouse gas (GHG) emissions. Approximately 40% of all GHG emissions in the United States come from buildings. Across the Department, that figure is even higher—with as much as two-thirds of all GHG emissions from electricity purchased and fuel combusted to power its facilities. Since energy conservation and renewable energy in facilities is paramount to mitigating climate change, the FWS has made energy conservation a priority and has institutionalized sustainable design and practices.

FWS policy requires that all new and major renovation building construction projects that are 5,000 square feet or greater in size, or have a total estimated cost greater than \$2 million, must earn at least a Leadership in Energy and Environmental Design (LEED) 2009 Silver certification from the U.S. Green Buildings Council. Leveraging funding sources including the American Recovery and Reinvestment Act of 2009, deferred maintenance and construction funding, the FWS has completed a number of high performance buildings and implemented hundreds of energy efficiency and



Visitor Center, Rocky Mountain Arsenal NWR. Credit: FWS.

renewable energy projects in recent years. These outstanding efforts have been recognized repeatedly in Federal awards programs (see list of the U.S. Department of Energy, Federal Energy Management Program (FEMP) award winners on page 5). The FWS actively participates in award competitions as a way to recognize the hard work of its employees and as a way to institutionalize sustainable actions throughout the Service. Since 1995, 33 FWS facilities have won FEMP Federal Energy and Water Management Awards; and since 2006, 18 FWS facilities have won the Department of the Interior's (DOI) Environmental Achievement Awards (11 of the 18 are included in the 33 FEMP award-winning facilities). For example, in 2012, seven FWS projects were selected as winners and honorable mentions in DOI Environmental Achievement Awards.

Regardless of the funding source, the lesson is that energy efficiency and sustainability principles were applied at each possible opportunity, leveraging limited funding to maximize energy savings. This is especially important for FWS as it replaces its aging buildings. The FWS's recipients of the 2012 DOI Environmental Achievement Awards are highlighted below. Each of these projects exemplify the whole-building sustainable design approach – minimizing energy use, making efficient use of resources, and reflecting sensitivity to the site.

- **Hybrid Solar Photovoltaic and Wind Energy System, Benton Lake National Wildlife Refuge (NWR), Montana:** This remarkable project incorporates a 25.4

kilowatt (kW) hybrid solar photovoltaic (PV)/wind energy system – the Mountain-Prairie Region’s first. In FY 2010, these integrated renewable energy systems accomplished a 93% decrease in purchased electricity consumption for the headquarters building and a 33% reduction in energy intensity from the field station’s FY 2003 baseline, with a cost savings of approximately \$4,000 per year, an energy savings of 121 million British thermal units (BTU), and 25 metric tons of GHGs avoided.

- **Headquarters Office Renovation, San Francisco Bay NWR Complex, California:**

After major renovation, the building consumes 52% less energy and was transformed into a model of innovative sustainable design featuring passive solar technologies, expansive spray foam wall and ceiling insulation, efficient lighting, occupancy sensors, generous day lighting, ENERGY STAR® appliances, Water Sense plumbing fixtures, and salvaged boards and beams. About 75% of construction waste was diverted from landfills. Renewable energy features include a solar-thermal collector with an interior heat reservoir that provides 100% of the domestic hot water. This project saves a total of 104 Megawatt-hours (MWH) of energy and indirectly offsets approximately 72 metric tons of GHGs annually.

- **Maintenance Shop Energy Retrofit, Turnbull NWR, Washington:** Alternative-energy features include a 12 kW PV array, a



Office and Visitor Center, Morris Wetland Management District. Credit: FWS.

closed-loop geothermal (ground source) heat pump, and a closed-loop flat-plate solar-thermal collector that supplements room heat and provides 100% of the domestic hot water. The HVAC system operates at efficiencies well above manufacturer’s data by feeding the hot-side of the solar-thermal collector to the HVAC heat pumps and warming the geofield with surplus heat. This new design is being shared with the equipment manufacturers and other government agencies. After renovation, the building consumes 32% less energy, and the renewable energy saves 52 metric tons of GHGs annually.

- **Visitor Center, Rocky Mountain Arsenal NWR, Colorado:**

The site that is now home of the Rocky Mountain Arsenal NWR Visitor Center is on land once occupied by the U.S. Army for chemical weapons manufacture during World War II. After a \$2 billion dollar cleanup, the site was restored to native short grass prairie. The Visitor Center achieves a LEED Gold rating, and it includes many sustainable features in energy efficiency, renewable energy, and water conservation. On-site renewable energy provides about 40% of the total energy required for the building, which itself uses at least 30% less energy than an equivalent building. The building also uses 49% less water than a standard system.

- **Office and Visitor Center, Morris Wetland Management District, Minnesota (Honorable Mention):**

The Office and Visitor Center combines interior daylighting, low-e glazed windows, and energy-efficient lighting to improve comfort and performance. A 23-ton ground source heat pump works with an enthalpy wheel and energy recovery ventilating units to maintain indoor air quality while improving energy performance by 30%. Water-efficient fixtures, native landscaping, and a natural stormwater management system at the facility save water. A net-metered 20 kW solar PV array provides 35.9 MWH of renewable power, which offsets 25 metric tons of GHGs annually.

FWS's Net-Zero Efforts

On January 7, 2013, FEMP announced publication of three case studies featuring energy and water conservation best practices used by selected recipients of 2012 Federal Energy and Water Management Awards. The agencies are the FWS, the Air Force, and the Marine Corps. These case studies showcase how agencies can augment their efforts by adopting similar efficiency standards. The FWS case study, "U.S. Fish and Wildlife Service Moves toward Net-Zero Buildings," showcases the Assabet River NWR Headquarters Building in Massachusetts. In 2011 this project won a Federal Energy and Water Management Award for its water- and energy-conserving features, its environmentally-friendly design, and its use of renewable energy systems. The PV and geothermal systems are expandable, allowing this building to one day become a net-zero facility. In addition, the FWS completed the San Luis National Wildlife Refuge Complex Headquarters and Visitor Center, California, in FY 2012 – the first LEED Platinum net-zero energy building in the FWS and also a recipient of a 2013 FEMP Federal Energy and Water Management award.



Assabet River NWR Headquarters. Credit: FWS.

- **Warm Springs Regional Fisheries Center, Georgia (Honorable Mention):** Three projects comprised this nomination: Alkalinity Enhancement, solar PV panel installation, and a geothermal HVAC replacement system. Solar photovoltaic panels generated an estimated 15,000 kilowatt-hours (kWh) in FY 2010. Additionally, the project included the installation of sub-meters on 70% of energy-using buildings to more reliably measure actual electrical usage. A geothermal HVAC replacement system captures geothermal energy from the cold water spring to heat and cool the Fish Health Building. The green geothermal system saves approximately \$2,200 per year in propane and electrical costs.
- **Sonny Bono Salton Sea NWR, California (Honorable Mention):** The Sonny Bono Salton Sea NWR staff reduced the volume of diesel fuel used in farm operations by 51% by switching to no-till planting. This saves approximately 5,863 gallons of fuel per year or 65 tons of CO₂. In addition, they retrofitted lighting in their headquarters and visitor contact station building that saved more energy. Nine solar PV arrays provide 58 kW of energy, which produced 81,659 kWh during the first 12-month period, providing a CO₂ emission savings of 69 tons and a 52% reduction in electricity use.

Energy Action Month

October was National Energy Action Month across the Federal Government. This year, the theme was empowering leadership, innovation, and excellence, which FEMP defines in the following ways:

- **Empower Leadership:** One individual can empower collaboration and teamwork that can spark change and result in sustainable solutions. Empower coworkers, groups, and entire organizations to lead by example, build momentum, and make a difference.

- **Empower Innovation:** Innovative thinking can guide strategic sustainability plans, generate new best practices, and accelerate the deployment of clean energy technologies. Empower others to think creatively and harness the power of people and technology.
- **Empower Excellence:** Leverage resources and maximize opportunities to move beyond "business as usual" and raise the bar for operational excellence and a secure energy future.¹

The Department of the Interior is empowering a secure energy future for the country by leading the way in clean energy development. DOI has already issued permits for more than 10 gigawatts of renewable energy on public lands—enough to power 4.4 million homes—and plans to double that total by 2020. These actions help secure the nation’s energy future, strengthen the economy, and create good jobs, while maintaining responsible stewardship of the land. Still, individual actions matter, too. Ensuring a sustainable planet for future generations requires us to conserve the resources we rely on daily to do our jobs.

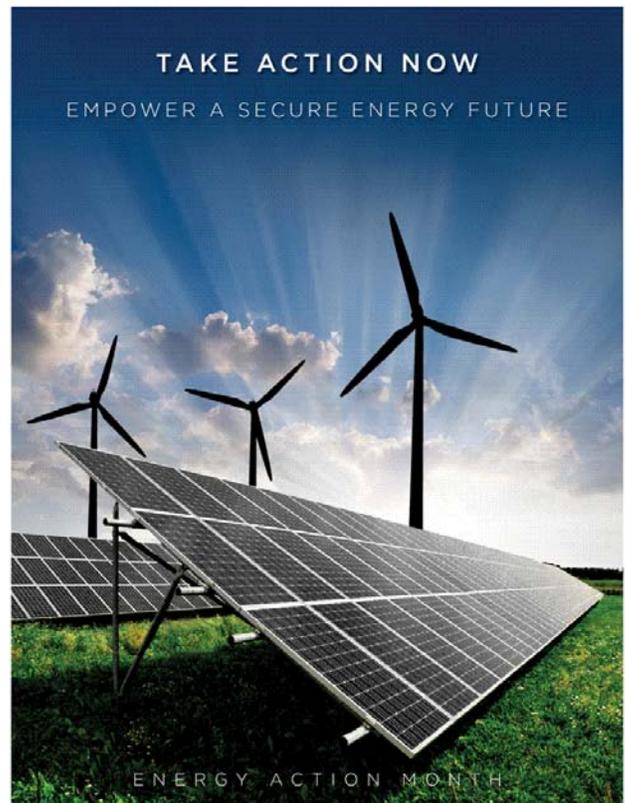
Here are a few lessons to apply in the coming year:

- Lights out! Turn off your lights and other equipment when leaving an office unoccupied;
- Use mass transit, carpooling, vanpooling, public transportation, and transit subsidy programs as an alternative to driving alone;
- Opt for telework, conference calls, and videoconferencing when possible;
- Purchase ENERGY STAR® and FEMP-designated equipment;
- Use compact florescent lamps and take advantage of natural lighting,
- Suggest energy saving improvements to your manager;
- Recycle and reuse materials;
- Finally, create a green “buddy system” with an officemate to help each other remember

¹ From http://www.eere.energy.gov/femp/services/energy_awards.html

to act on these energy saving tips. Together, you will develop a green routine.

These actions may seem small but taken together they are not. Real change begins with small steps. DOI employees can empower leadership, innovation, and excellence through their actions.



Award Winners

Bureau Energy Projects Receive Recognition in FY 2013

Interior continues to be a sustainability leader across the Federal government. In FY 2013, the Department received several **Federal Energy and Water Management Awards** from FEMP.

National Park Service – Mesa Verde National Park, Cortez, Colorado, received a project award for its high performance Visitor and Research Center. A showcase high-performance building that demonstrates use of energy efficiency, renewable energy, water conservation, recycling, and environmentally preferable materials, the project

achieved LEED Platinum Certification, a technically difficult feat because of the special challenges of a curatorial facility that is also open to the public. The building generates 95% of its energy needs from renewable sources.

National Park Service – Santa Monica Mountains National Recreation Area (NRA), Thousand Oaks, California, received a project award for its net-zero Visitor Center. This is the first grid-tied net-zero visitor center in the National Park System, achieving the federal standard for 2030 18 years ahead of time. A 94 kW PV system provides all the energy needs for the facility over the course of a year, and surplus energy from the system helps to offset the carbon footprint at other facilities in the NRA. The 7,000 square foot LEED Platinum facility is heated and cooled by an innovative and highly efficient ground and water source heat pump system using an artificial pond as the primary heating and cooling source.

U.S Fish and Wildlife Service – San Luis National Wildlife Refuge, Los Banos, California, won a project award for its net-zero Headquarters and Visitor Center. The FWS's first net-zero energy LEED Platinum certified building, the 16,500 square foot Headquarters and Visitor Center at San Luis National Wildlife Refuge Complex, is a model of sustainability. During the first year of operation, the new building produced 103 MWH of renewable energy via nine PV arrays totaling 59.2 kW that helps save 42.2 MT of GHG annually (the annual emissions of nine cars).

FEMP created posters of all the winning entries for this year's awards. Posters of DOI's winners are attached at the end of the newsletter.



Mesa Verde National Park Visitor and Research Center.
Credit: Terry Shapiro.



Santa Monica Mountains National Recreation Area
Visitor Center. Credit: NPS.



San Luis National Wildlife Refuge Headquarters and
Visitor Center. Credit: Jack Sparks, FWS.

President's Climate Action Plan Recap

On June 25, 2013, the White House issued *The President's Climate Action Plan*,² which outlines a broad slate of initiatives to mitigate and adapt to climate change across the nation, and to lead international efforts to do the same. Many of these measures are directed at federal agencies and may impact the Department significantly. In some cases, actions outlined in the plan are already under way. In other cases, DOI will have to adjust to new expectations and requirements. Several of the initiatives contained within the plan may affect the energy management and sustainability programs of DOI's bureaus. They are described below:

Renewable Energy

- The Administration has established a new goal for federal agencies to consume 20% of their electricity from renewable sources by 2020 – more than double the current goal of 7.5%.

Energy Efficiency

- Agencies will work together to synchronize building codes, leveraging existing policies to improve the efficiency of federal buildings.
- The Administration will leverage the “Green Button” standard³ – which aggregates energy data in a downloadable format – within federal facilities to increase their ability to manage energy consumption, reduce greenhouse gas emissions, and meet sustainability goals.

² Full plan available at:
<http://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>

³ See <http://energy.gov/data/green-button> for details.

Bureau Notes

Sustainability Updates from around the Bureaus

Bureau of Indian Affairs:

The Office of Facilities Management and Construction completed the installation of ground source heat pumps at homes for Office of Justice Services employees at **Lower Brule**, South Dakota, and at **Riverside Indian High School**, Iowa.



New Homes at Lower Brule. Credit: BIA.

Bureau of Land Management:

Several medium scale energy retrofit projects were designed and coordinated by engineers in the National Operations Center for existing facilities BLM wide. HVAC controls were revamped at the **California Trails Center** in Nevada. In Utah, the **Big Water Visitor Center** HVAC system was replaced, and in Montana outside air dampers were added at the **Miles City Field Office**. In addition, an 8 kW PV system was installed at the new fire station facility at **Fort Howes** in Montana.

Bureau of Reclamation:

The **Socorro Field Division** installed solar collectors for building heating at San Marcial Yard, New Mexico, which reduced heating costs by 70% and reduced propane use. The **Provo Area Office** in Utah has replaced sprinkler head with drip irrigation; installed light emitting diode (LED)

lighting with dimmer switches; implemented a formal green purchasing program, including training; established a green team to facilitate EMS implementation; and will also install a 24 kW solar powered electrical system for the office building. Through a WaterSMART Water and Energy Efficiency Grant (WEEG), the **Frenchman-Cambridge Irrigation District**, Nebraska, is installing a pumping plant and pipeline on Cambridge Diversion Dam which will allow alternative water management options for the water supply for Bartley Canal. The **Lower Colorado Region's Date Street Campus** completed Phase 2 of its Boulder City Solar Farm in October 2012, installing 588 PV panels, bringing the capacity to 135.24 kW with an estimated annual production of 240,050 kWh. This brings the production of the solar field up to the point where it is expected to generate more electricity than the new "Green" building.

U.S. Fish and Wildlife Service:

The FWS constructed a 70 kW off-grid PV system at **Vieques National Wildlife Refuge** in Puerto Rico. The system consists of 280 PV panels in four arrays that charge a central deep-cycle battery bank for on-demand drawdowns. The Visitor Center and Headquarters at **Upper Mississippi River National Wildlife and Fish Refuge**, Wisconsin, constructed an energy-efficient Headquarters/Administrative/Visitor Building. The sustainable building includes a 38.5 kW solar PV system, a 77 ton ground source heat pump, and a solar hot water system with a 120 square-foot solar collector.

The Administrative Headquarters and Visitor Center at **Mammoth Spring National Fish Hatchery**, Arkansas, was completed in July 2013. A water source 30-ton geo-mechanical HVAC system, with spring water flowing through a heat exchange unit cools the facility in the summer and heats it in the winter. The building is constructed of sustainable and environmentally-friendly materials. Inside water is conserved with low-flow plumbing including waterless urinals. Spring water from the heat exchanger flushes the toilets. Outside water conservation best management practices include Xeriscaping and any exterior irrigation with spring water from the heat exchange unit. The FWS intends to apply for a LEED Silver rating in the

future. Finally, the FWS's distributed generation project, the installation of a 16 kW in-line microhydroturbine at **Craig Brook National Fish Hatchery**, Maine, will be completed in FY2013.



Ribbon Cutting Ceremony at Visitor Center and Headquarters at Upper Mississippi River National Wildlife and Fish Refuge. Credit: Garrett Peterson/USFWS.

National Park Service:

In FY2013, **Yellowstone National Park**, Wyoming, completed the retrofit of 33 historic acorn lights around the parade ground in Fort Yellowstone from bright white globes to LED. The lights are historic so special attention was paid to ensure updates kept with the historic and natural setting. Yellowstone also completed a retrofit of wooden bollard lights from compact fluorescent lamps to LEDs. The LED strip was custom made to fit the rustic looking and bison proof bollard. In 2012, **Mammoth Cave National Park**, Kentucky, completed a renovation of its visitor center. The building is on track to achieve LEED Gold certification and includes a 30,000 gallon water cistern that captures rainwater for use in toilets. **Craters of the Moon National Monument and Preserve**, Idaho, implemented a variety of progressive, water efficiency techniques over the past two decades. The park, located in a desert climate, reduced irrigated landscaping by 86% from its peak. In 2009, a decade-long water line replacement project completed and resulted in a 50% reduction of annual water usage, from 4 million gallons to 2 million gallons. The new water system also includes modern system controls and metering to accurately monitor water use and identify future leaks.

The **National Capital Region** is pursuing a region-wide Energy Savings Performance Contract (ESPC) with all 14 park units from the region participating. The Investment Grade Audit was completed by the end of FY2013. Annual energy and water savings are predicted to be \$1-1.5 million dollars from all the park units; however, these numbers are based on the preliminary assessment reports and can change.



Desert Landscape and Solar Panels at Craters of the Moon National Park and Preserve. Credit: NPS.

Office of Facilities and Administrative Services:

The OFAS upgraded chiller system controls at the **South Interior Building (SIB)** and installed LED exterior lighting at C street entrance of the **Main Interior Building (MIB)**. OFAS is continuing to pursue an ESPC to upgrade the MIB and SIB complex.

U.S. Geological Survey:

The **Columbia Environmental Research Center (CERC)**, Missouri, has implemented a project to replace a 75-horsepower submersible pump at deep well #2 and a project to renovate a mass spectrometry room (new electrical distribution,

lighting, insulation, ceiling, flooring, and HVAC). In 2013, CERC discontinued the operation of an 800-gallon aquarium that had a 3 inch continuous flow through. The total cost of the well operation from March 2012 through June 2012 was \$21,222. The cost of well operation for the same period in 2013 was \$10,582, a 51% reduction in energy costs. At the **National Center** in Reston, VA, compact fluorescent lighting was upgraded to LED lighting in elevator lobbies, and will achieve better quality lighting. The project cost \$9,600 and is expected to save 1.56 kilowatts an hour or \$0.11 an hour.

Thirteen USGS facilities were assessed by Siemens for an Energy Savings Performance Contract (ESPC). Seven USGS facilities were chosen to perform an Investment Grade Audit. Three project sites are currently being reviewed to proceed with the award. The estimated implementation cost is approximately \$11 million.



USGS National Center. Credit: USGS.

Announcements

- **Greenhouse Gas and Sustainability Data Report:** The Department of Energy (DOE) Federal Energy Management Program (FEMP) recently released the Annual GHG and Sustainability Data Report template, (located at http://www.eere.energy.gov/femp/regulations/facility_requirements.html). This data report template will serve as the Department's collection tool for GHG and energy management data. Subsequent versions of the report reflecting updated accounting and reporting guidance from the

Council on Environmental Quality (CEQ), and necessary formula corrections, will be electronically forwarded to the Department's Sustainability Council Implementation Committee.

- Bureaus and offices are requested to submit their completed Fiscal Year (FY) 2013 Annual GHG and Sustainability Data Report by **December 13, 2013**. This submission should be electronically uploaded to the Sustainability Council's SharePoint intranet site at: <https://portal.doi.net/programs/ems/GHG%20Inventory/Forms/AllItems.aspx>. Specific uploading instructions will be issued by the Sustainability Council's Implementation Committee separately. In addition to the data report, bureaus and offices must submit a memorandum certifying that the data submitted is reliable and in accordance with CEQ's Federal GHG Accounting and Reporting requirements. Bureaus and offices reporting excluded energy consumption for specific processes, structures and facilities which meet DOE exclusion criteria must also complete and submit attachment 2 on the SharePoint site. This exclusion applies only to the goal to reduce energy intensity.
- **EISA Covered Facilities Compliance Tracking System (CTS) - Implemented Projects:** The Energy Independence and Security Act of 2007 (EISA) indicates that Federal agencies may implement any energy or water conservation measure that was identified in the covered facility evaluation that is life cycle cost effective. Project information can be inputted into CTS by bureau energy managers at any time throughout the year either individually by covered facility or through spreadsheet uploads. All bureaus should input or provide implemented project data for at least 10 covered facilities if possible semi-annually but no later than January 17th, 2014. Updated templates may be obtained from and should be submitted electronically to Mary Heying at mary_heying@ios.doi.gov no later than January 17th.
- **Assisting Federal Facilities with Energy Conservation Technologies (AFFECT):** On November 5, 2013, FEMP issued Funding Opportunity Announcement (FOA) DE-FOA-0000901 on the EERE Exchange titled "Assisting Federal Facilities with Energy Conservation Technologies (AFFECT)." The AFFECT FOA will provide direct funding to U.S. Federal agencies for the development of combined heat and power or renewable energy capital projects at agency facilities. The anticipated total funding level for AFFECT is \$5 million, with anticipated funding per award to be between approximately \$50,000 and \$1 million. Agencies are expected to significantly leverage FOA funds using agency-appropriated funds or alternative project financing mechanisms such as ESPCs, UESCs, or Power Purchase Agreements (PPAs) to complete the projects. All projects should lend themselves to follow-on replication efforts at additional Federal sites.

Letters of intent (LOI) are due by December 10, 2013, and full applications are due by February 18, 2014. Applicants must submit a LOI to be eligible to submit a full application. To apply for AFFECT, applicants must register with and submit application materials through the EERE Exchange (<https://eere-exchange.energy.gov/Default.aspx>). For questions regarding this FOA, please visit the AFFECT FAQ (<https://eere-exchange.energy.gov/FAQ.aspx?FoalD=1dcad199-9e1a-4de3-8eob-ef89a9b7dcab>) on Exchange or send your question to AFFECT@go.doe.gov.

- **Training:** FEMP has released eight new online training courses in partnership with the National Institute of Building Sciences. The courses are supportive of the Federal Building Personnel Training Act core competencies. The [eTraining Courses](#) include the following:

| Course | Length | CEUs |
|---|---------|--------------|
| Commissioning for Existing Federal Buildings | 5.0 hrs | .5 FEMP CEUs |
| Planning an Energy Assessment for Federal Buildings | 4.7 hrs | .5 FEMP CEUs |
| Launching a Utility Energy Services Contract: Getting to Yes | 3.7 hrs | .4 FEMP CEUs |
| Federal On-Site Renewable Power Purchase Agreements | 3.5 hrs | .4 FEMP CEUs |
| Advanced Electric Metering in Federal Facilities | 4.0 hrs | .4 FEMP CEUs |
| Managing Water Assessments in Federal Facilities | 4.0 hrs | .4 FEMP CEUs |
| Selecting, Implementing, and Funding Photovoltaic Systems in Federal Facilities | 4.0 hrs | .4 FEMP CEUs |
| Sustainable Institutional Change for Federal Facility Managers | 3.5 hrs | .4 FEMP CEUs |

- Energy Star Portfolio Manager is offering a number of training sessions during November and December. More information can be found on the Portfolio Manager training website (https://www.energystar.gov/buildings/training?c=business.bus_internet_presentations). The sessions are detailed in the following table:

| Course | Date | Time (Eastern) |
|---|--------------|----------------|
| How to Apply for the ENERGY STAR | Nov 7, 2013 | 3:30 pm |
| The Federal Guiding Principles Checklist in ENERGY STAR® Portfolio Manager | Nov 12, 2013 | 2:00 pm |
| How to Launch an ENERGY STAR Energy Efficiency Competition | Nov 13, 2013 | 1:00 pm |
| The Value of ENERGY STAR: How America's Top Energy Efficiency Brand Can Make Your Efforts Stand Out | Nov 14, 2013 | 1:00 pm |
| Portfolio Manager 101 | Nov 19, 2013 | 1:00 pm |
| Water: Benchmarking and Best Practices from WaterSense | Nov 20, 2013 | 1:00 pm |
| Portfolio Manager "Office Hours" | Nov 21, 2013 | 1:00 pm |
| Portfolio Manager 201 | Nov 25, 2013 | 1:00 pm |
| ENERGY STAR Service and Product Provider Fall 2013 Web Conference | Dec 5, 2013 | 1:00 pm |
| Financing Energy Efficient Upgrades with ENERGY STAR | Dec 10, 2013 | 2:00 pm |
| ENERGY STAR and Green Building Rating Systems | Dec 11, 2013 | 2:00 pm |
| Portfolio Manager 101 | Dec 12, 2013 | 2:00 pm |
| The Federal Guiding Principles Checklist in ENERGY STAR® Portfolio Manager | Dec 17, 2013 | 2:00 pm |
| Portfolio Manager 201 | Dec 19, 2013 | 1:00 pm |

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Federal Energy and Water Management AWARDS 2013

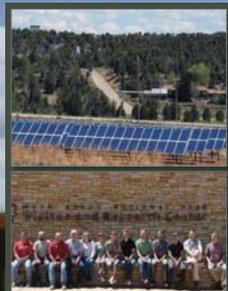


**Ric Alesch, Jill Jones, Meghan Kish
Forrest McNabb, Lisa Soghor
U.S. Department of the Interior, National Park Service
Santa Monica Mountains National Recreation Area
Thousand Oaks, California**

The National Park Service (NPS) designed and constructed a certified Leadership in Energy and Environmental Design (LEED) Platinum-rated visitor center for the Santa Monica Mountains National Recreation Area (NRA). The new facility is the first grid-tied net-zero visitor center completed in the National Park System and the first NPS facility designed with all light emitting diode (LED) electronics for all exterior and interior lighting fixtures. Extensive natural lighting and the high-efficiency LED lighting with a daylight dimming system keeps electricity use at a minimal level.

The 7000 square foot building is heated and cooled by a highly efficient ground and water source heat pump system using an existing artificial pond as the primary heating and cooling source. A 94-kilowatt photovoltaic system provides all the energy needs for the facility. In fact, the PV system produced 310 billion Btu in the first year, or about 2.5 times net-zero. Surplus energy from the system helps to offset the carbon footprint from other NRA facilities. The facility was developed in partnership with California State Parks and a local park agency, the Metropolitan Recreation and Conservation Authority.

Federal Energy and Water Management AWARDS 2013



*The Mesa Verde Visitor and Research Center
Technical and Construction Team Members:
PCI Construction Services, AIC Architects, Inc.,
Alpha Corporation, and National Park Service/
Denver Service Center*



Frank Cope, Bethany Mills, William Nelligan Jodie Petersen, Scott Thomas U.S. Department of the Interior, National Park Service Mesa Verde National Park Cortez, Colorado

At Mesa Verde National Park, the National Park Service constructed a new Leadership in Energy and Environmental Design (LEED) Platinum-certified visitor and research center in FY 2012. Performance goals for siting, energy, water, materials, and indoor environmental quality were set at the earliest stages of the building delivery process. Achieving LEED Platinum certification was a difficult feat due to the special challenges of a curatorial facility that is also open to the public. Temperature, humidity, lighting levels, and contaminants must be carefully controlled, requiring innovative systems, precise design engineering, proper construction, and extensive commissioning to secure the priceless and irreplaceable artifacts.

The building features an improved envelope; reduced lighting; advanced controls; high-efficiency ground-source heat pumps; energy recovery technology; chilled beams and slabs; and on-site renewable energy systems. A 67-kilowatt photovoltaic system, solar water heating system, and a micro-hydro turbine are able to provide 95 percent of the building energy requirements. Landscape irrigation has been successfully eliminated, and a wastewater treatment project and installation of dual flush water closets and low flow fixtures have reduced the site's potable water use by 40.7 percent from the baseline.

Federal Energy and Water Management AWARDS 2013



Selectively placed tubular window technology (above) and plenty of daylighting (below) create a comfortable and energy-efficient interior space for visitors and staff.



Shannon Blackburn, Mary Crist, Kim Forrest Beth Ludvigsen, Bob Parris U.S. Department of the Interior, U.S. Fish and Wildlife Service San Luis National Wildlife Refuge Complex Los Banos, California

The U.S. Fish and Wildlife Service completed its first net-zero energy Leadership in Energy and Environmental Design (LEED) Platinum-certified building in FY 2012 at San Luis National Wildlife Refuge Complex. During the first year of operation, the 16,500 square-foot Headquarters and Visitor Center produced 352 billion Btu via nine solar photovoltaic arrays totaling 59.2 kilowatts. Structural insulated panels; a cool roof; abundant daylighting achieved with tubular daylighting devices, clerestories, skylights, and operable low-e glazed windows; passive and evaporative cooling; and energy-efficient lighting yield energy performance better than 30 percent compared to an average building.

Low-flow and waterless plumbing fixtures reduce water use by 35 percent and save 396,000 gallons annually. Xeriscaping, native plants, limited drip-irrigation, and stormwater containment conserve water outdoors. Low-volatile organic compound (VOC) carpets, paints, and adhesives provide a healthy indoor work environment. Many building elements are composed of recycled materials including countertops; ceiling tiles; wallboard; wheat straw cabinetry; fly ash in the concrete; and certified sustainably harvested lumber, with 90 percent of construction waste recycled. Dynamic, interactive exhibits highlight the facility's green features for an estimated 150,000 visitors annually.