

## Facilitating Sound, Cost-Effective Federal Energy Management

As the nation's largest energy consumer, the Federal Government has a tremendous opportunity and acknowledged responsibility to lead by example. The U.S. Department of Energy's (DOE) Federal Energy Management Program (FEMP) plays a critical role in this effort.

FEMP provides the services, tools, and expertise to Federal agencies to help them achieve their legislated and executive-ordered energy, greenhouse gas, and water goals. These are delivered through project services and program services.

### Program Areas

#### **Complying with energy legislation and regulations:**

FEMP analyzes Federal energy legislation and regulations to help agencies comply with all applicable requirements. It provides technical assistance to agencies introducing new technologies into their operations and, more broadly, into the private sector. FEMP is an interagency coordinating body that serves as the scorekeeper for Federal agency performance toward statutory and executive-ordered energy goals. It delivers assistance by bringing agencies together, developing guidance documents, and other services.

#### **Assisting energy project funding and contracting:**

FEMP supports Federal agencies by assisting with identifying, obtaining, and implementing project funding. Project funding mechanisms allow Federal agencies to save energy without upfront capital costs or special congressional appropriations. These funding tools



FEMP promotes energy- and water-saving measures in Federal buildings. This government facility conserves energy by using passive solar to capture light and heat from the sun and saves water by landscaping with native plants. *Photo by Heather Lammers, NREL/PIX 17515*

include energy savings performance contracts (ESPCs), utility energy service contracts (UESCs), on-site renewable power purchase agreements (PPAs), and various Federal and state energy incentives programs.

With assistance from FEMP, the Federal Government's energy management commitment has accelerated and grown in recent years. Since 2005, FEMP facilitated \$3.1 billion of efficiency investments in Federal Government facilities from performance-based contracts, which resulted in cost savings of approximately \$8.5 billion over the life of the energy-saving measures.

#### **Using sustainable design practices to create high-performance buildings:**

FEMP helps Federal agencies implement sustainable design practices that incorporate greenhouse gas reduction, energy efficiency, renewable energy, water-efficiency technologies, and other sustainable aspects. These practices span new construction, retrofit projects, and operations and maintenance. FEMP services include:

- Energy audits
- Combined heat and power assessments

- Operations and maintenance assessments
- Laboratory design protocols
- Independent evaluations of technologies
- Advanced metering
- Guidance for procuring energy-efficient and renewable energy products.

FEMP's Laboratories for the 21st Century partnership with the U.S. Environmental Protection Agency (EPA) significantly reduces Federal laboratory energy use each year. FEMP also works with industrial facilities to improve energy and water efficiency. FEMP helps facilitate Federal data center energy efficiency. The program develops tools and resources to make data centers more energy efficient, including DOE data centers.

#### **Procuring energy-efficient products:**

The Federal Government can reduce energy consumption and achieve enormous cost savings by purchasing energy-efficient products. FEMP provides guidance by publishing purchasing specifications. This guidance includes energy-efficiency requirements, purchasing tips, cost data, and calculators that help Federal agencies offset energy consumption costs through energy-efficient product procurement.

Federal buyers are required by the Energy Policy Act (EPA) of 2005 and other regulations to purchase ENERGY STAR®-qualified or FEMP-designated products for energy efficiency and low-standby power. These products are in the upper 25% of energy efficiency in their class.

**Implementing renewable energy technologies:** EPA 2005 requires Federal agencies to source no less than 5% of total electricity consumed in fiscal years (FY) 2010 through 2012 from renewable energy, increasing to 7.5% in FY 2013 and beyond.

FEMP assists Federal agencies in developing and implementing clean, secure energy resources to meet this and other renewable energy requirements.

By using renewable energy resources, Federal agencies can meet energy management regulations, help conserve natural resources, and increase the nation's energy independence and security.

**Deploying water-efficiency best practices:** Water efficiency and conservation is an integral part of Federal energy and resource management programs. Not only is water a precious natural resource,



The fitness center at Tyndall Air Force Base, Florida, features a solar-generated, hot-water system and cool-roof technologies that are expected to achieve a 9% energy savings for the building. *Photo from Jonathan Green, U.S. Air Force*

it requires significant energy for treatment, pumping, heating, and processing.

Executive Order (E.O.) 13514 and E.O. 13423 contain significant water-reduction mandates that require Federal agencies to reduce water consumption intensity 2% annually through FY 2015 or by 16% by FY 2015. FEMP helps agencies manage water-efficiency and conservation efforts through regulatory guidance, interagency coordination, best management practices, and other resources.

**Training, communications, and awards:** Federal agencies learn to implement energy-saving strategies, gain recognition for outstanding achievements, and stay informed about the Federal Government's progress in meeting energy-management goals through FEMP training, services, and outreach.

These services include the FEMP Focus newsletter, the FEMP website, extensive online and in-person training, and the annual GovEnergy workshop. Recognition programs, including the Federal Energy and Water Management Awards, have honored thousands of Federal employees for outstanding initiative, perseverance, and creativity.

**Measuring and abating greenhouse gas emissions:** Operating more than 500,000 buildings and an immense vehicle fleet, the Federal Government is the nation's largest energy consumer and greenhouse gas emitter—accounting for 1.6% of total U.S. energy consumption.

This footprint opens an opportunity for the Federal Government to mitigate climate change by reducing greenhouse gas emissions. Complying with E.O. 13514 demands a transformative shift in the way the Federal Government operates, necessitating a deliberate planning process for managing greenhouse gases. FEMP offers greenhouse gas management



Drivers at DOE's National Renewable Energy Laboratory charge Federal electric vehicles at this on-site charging site to meet petroleum-reduction requirements.

*Photo by Mike Simpson, NREL/PIX 18870*

and abatement services to help Federal agencies meet the goals and requirements of E.O. 13514 and other regulations.

**Managing energy-efficient and alternative fuel vehicle (AFV) fleets:**

The Federal fleet consists of approximately 650,000 domestic vehicles. While 25% of these are AFVs, legislation mandates further reductions in fleet petroleum use.

FEMP provides guidance on and assistance for implementing and managing energy-efficient and AFV fleets. This includes helping Federal agencies meet fleet management requirements, such as reducing petroleum consumption by 2% per year through FY 2020 relative to a FY 2005 baseline and increasing alternative fuel use by 10% per year relative to the previous year through 2015.

Learn More



femp.energy.gov