

## E.O. 13514: AGENCIES LEADING BY EXAMPLE

Throughout the Federal Government, agencies are already leading by example toward building a clean energy economy. This document outlines some examples of projects, many of which leverage Recovery Act funding, that will drive long-term savings, build local market capacity, and create new private-sector clean energy jobs. Agencies will build on these efforts to achieve the sustainability goals in Executive Order 13514.

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## **CENTRAL INTELLIGENCE AGENCY**

### **CIA Headquarters (McLean, VA)**

The Central Intelligence Agency committed to reducing GHG pollution when it opened two new LEED certified buildings in Virginia that reduce annual energy and water use by more than 20 percent and 40 percent, respectively. The Agency continues to work on greening initiatives through recycling programs, including using recycled tires instead of traditional wood mulch. <sup>i</sup>

## **DEPARTMENT OF DEFENSE**

### **U.S. Air Force Academy (Colorado Springs, CO)**

The Air Force Academy was selected as the Air Force's Net Zero Energy Installation by the Departments of Defense and Energy. A soon-to-be constructed solar array will deliver 4 megawatts of power to meet the installation's needs. The Air Force is also overhauling and upgrading its electrical, water, and natural gas grids and replacing inefficient systems and piping. By 2015, the Academy will reduce its current energy consumption by 38 percent while increasing its use of renewable and green energy from 10 percent to 100 percent. <sup>ii</sup>

### **Marine Corps (Albany, GA)**

The Marine Corps Logistics Base Albany, GA has signed a 20 year contract to burn methane gas from a nearby landfill, providing 22 percent of

its energy needs, enough energy to power 1,200 homes. This is the fourth methane-to-energy project for the Department of Defense, and the first for the Marine Corps, and will be online by 2011. <sup>iii</sup>

### **Navy**

The USS Makin Island (LHD 8) is expected to save \$250 million in fuel costs over the ship's lifetime, as compared to traditional ships with steam boilers, as the first Navy surface ship to use a hybrid engine utilizing both gas turbines and an electric drive. In the ship's transit from Mississippi to California, the ship saved 900,000 gallons of fuel and \$2 million in fuel costs when compared to a conventional ship of the same size. <sup>iv</sup>

### **National Guard (Fort Dix & Sea Girt, NJ)**

The U.S. Army Corps of Engineers has installed two solar arrays at National Guard facilities in Fort Dix and Sea Girt, NJ. The two installations, approximately 240 kilowatts each, will together annually save the NJ National Guard \$116,000 in electricity bills. <sup>v</sup>

### **Army (TX, CA, NC)**

#### **Fort Bliss, TX**

Fort Bliss is aiming to be the "Army center for renewable energy" and a net-zero electricity user by 2025, producing as much energy on-site as the facility uses. The base is investing in solar, geothermal, wind, and biomass energy

sources to become energy independent and fight rising utility bills. The base also employs energy conservation practices, including using natural lighting, building insulation, and energy-saving transportation policies, as part of its day-to-day operation.<sup>vi vii</sup>

### **Fort Irwin, CA**

The Army's Fort Irwin is building a 500 megawatt solar plant in the Mojave Desert, which when complete will be the Defense Department's largest solar installation and one of the largest in the country. The project is expected to be completed by 2022 and will provide more than enough energy to supply the base, making it energy independent.<sup>viii</sup>

### **Fort Bragg, NC**

Fort Bragg, one of the largest Department of Defense installations, has used Recovery Act funds to undertake a number of energy efficiency upgrades, such as integrating metering and building control systems, and replacing old central plant equipment that will improve energy efficiency. In addition, new building construction features include ground-sourced heat pumps and solar hot water heaters. Fort Bragg is also designing a new fire station to meet LEED platinum requirements.

## **DEPARTMENT OF ENERGY**

### **Savannah River Site (Aiken, SC)**

The Department of Energy entered into its largest-ever Energy Savings Performance Contract in 2009 to construct one of the largest biomass facilities in the country at the Savannah River Site near Aiken, South Carolina. The \$795-million project replaces a deteriorating, inefficient coal powerhouse and oil-fired boilers at a savings of approximately \$34 million per year in energy and operation and maintenance costs. The new biomass facility is projected to reduce greenhouse gas emissions by 100,000 tons per year.<sup>ix</sup>

### **Biomass Generation Plant (Oak Ridge, TN)**

The Oak Ridge biomass steam generation plant, scheduled to be operational in 2011, will replace four natural gas-fired boilers and is expected to save over 55,000 metric tons of carbon dioxide annually, along with significant reductions in nitrogen oxides and sulfur dioxide.

### **National Renewable Energy Laboratory (Golden, CO)**

As part of the efforts to achieve net-zero energy use at its new facility in Golden, CO, the National Renewable Energy Laboratory is greening its data center. Leveraging the local climate of the laboratory, the facility will use "free cooling," which relies on energy efficient fans instead of traditional air conditioners to

control the temperature around the servers. NREL will also consolidate servers from 250 to 50 without a loss in computing power, and will organize its servers to facilitate a more efficient air flow through the stacks. Overall, the data center will reduce power consumption by 65 percent and significantly contribute to the facility's efforts to be net-zero even as the lab grows and adds new capabilities.<sup>x</sup>

## **DEPARTMENT OF HEALTH AND HUMAN SERVICES**

### **Jefferson Laboratories Complex (Jefferson, AR)**

The Food and Drug Administration's Jefferson Laboratories Complex (JLC) in Jefferson, AR has implemented upgrades to the energy management control system of several buildings on the JLC campus. These efforts will save an estimated 8.3 billion BTUs of energy, or 2.3 percent of the average annual energy consumption on campus. This will save nearly \$93,000 annually and will reduce greenhouse gas generation by 230 metric tons of carbon equivalent.

## **DEPARTMENT OF THE INTERIOR**

### **National Wildlife Refuges (TX)**

Recovery Act funds are being used for the installation of solar energy systems at four National Wildlife Refuges in Texas. Solar

photovoltaic systems at Buffalo Lake, Laguna Atascosa, Aransas, and the Texas Mid-Coast Refuges Complex on San Bernard refuge will save energy, reduce greenhouse gas emissions, and provide long-term cost savings in buildings on the refuges, which are in remote locations and require systems that do not harm the local habitat.<sup>xi</sup>

## **DEPARTMENT OF LABOR**

### **Wind River Job Corps Center (Riverton, WY)**

The Department of Labor's Wind River Job Corps Center in Wyoming, scheduled for completion in 2012, will train workers for employment in the Renewable Resources and Energy fields. Not only will the center provide training to hundreds of students for work in green industries, the facility itself will incorporate green features – such as solar energy technology – so students can learn first-hand the benefits that a green facility can provide and receive training on how to maintain an environmentally-friendly facility.<sup>xii</sup>

## **DEPARTMENT OF TRANSPORTATION**

### **Volpe Center (Cambridge, MA)**

The Volpe Center, Cambridge, MA, has encouraged a culture of recycling and energy efficiency with great success. Initiatives like

bringing in utilities to conduct energy audits and diverting waste through recycling efforts have saved the Center 185 metric tons of carbon dioxide. The Center hopes to improve its sustainability measures enough to apply for LEED certification prior to its upcoming 40<sup>th</sup> anniversary in the Fall of 2010.<sup>xiii</sup>

## **DEPARTMENT OF VETERANS AFFAIRS**

### **St. Cloud Medical Center (St. Cloud, MN)**

The U.S. Department of Veterans Affairs National Energy Business Center has recently awarded a design-build contract for a wind turbine electric generation system to serve their Medical Center in St. Cloud, Minnesota. The 600 kilowatt turbine installation, to be completed in the spring of 2011, is projected to supply up to 15 percent of the facility's annual electricity usage.

## **ENVIRONMENTAL PROTECTION AGENCY**

### **National Computer Center (Research Triangle Park, NC)**

The Environmental Protection Agency, in partnership with the Department of Energy, is working to reduce energy use at the EPA National Computer Center in Research Triangle Park. As a result of continuing assessment of

the Center's power and cooling infrastructure, the Agency has maintained 15 percent energy reduction levels and produced more than \$100,000 in annual energy cost savings. These reductions were realized while accommodating significant increases in the total number of servers supported and the amount of Agency data stored.

### **EPA Fleet**

By upgrading its fleet over the next ten years to highly fuel efficient or hybrid electric and plug-in vehicles, EPA estimates the Agency will reduce gasoline consumption by almost 30 percent, which translates into an approximate 25 percent reduction in the GHG emissions from its fleet vehicles. Upgrading Agency vehicles combined with increased use of alternative fuels and other efficiencies has the potential to reduce EPA's overall fleet GHG emissions by more than 40 percent.

## **GENERAL SERVICES ADMINISTRATION**

The General Services Administration manages approximately 8,600 government-owned or leased buildings. As the landlord for most civilian agencies, the GSA is committed to being a leader in green technologies, serving as a proving ground, and sharing information on their practical applications.

### **Edith Green Wendell Wyatt Building (Portland, OR)**

The U.S. General Services Administration is modernizing the Edith Green Wendell Wyatt Federal Building in Portland, OR into a landmark high-performance green building. Designed to achieve the highest possible level of green building certification, LEED Platinum, the building will use 60 – 65 percent less energy than a typical office building by integrating high-performance features that are optimized for the building's location and orientation in the Pacific Northwest climate. Results will include a 50 percent reduction in lighting energy usage through advanced, optically-enhanced light systems; a 68 percent reduction in potable water consumption through the use of low flow fixtures and reuse of rainwater; modernized elevators that regenerate power when they descend; and a solar array on the roof to offset up to 15 percent of the building's consumption with solar power produced on-site.

### **IRS Center (Andover, MD)**

The General Services Administration is modernizing an outdated IRS Service Center in Andover, MD and creating a state of the art office facility designed to reduce energy use by more than 25 percent. The project is on track to receive a LEED Gold certification and features new courtyards, light monitors, a high performance roof with a new photovoltaic array, energy efficient electrical equipment and

light fixtures, and a new geothermal heating and cooling system for the site is currently in design. Once completed, employees currently housed in leased office locations will be consolidated into this newly renovated facility, saving taxpayers money through greening and lease consolidation.

### **Denver Federal Center (Lakewood, CO)**

GSA Rocky Mountain Region is installing 35 acres of solar panels at the Denver Federal Center in Lakewood, CO. Roof-mounted panels will provide about seven percent of the electricity needs of the entire Federal Center, will reduce the demand for grid-supplied electricity, save electrical utility costs of \$300,000 per year, and therefore reduce carbon dioxide emissions.

## **SMITHSONIAN**

### **National Zoo (DC)**

In November 2009, the Smithsonian National Zoological Park converted its 2,500 gallon diesel fuel pumps to a renewable 20 percent soy-based biodiesel blend. This cleaner burning biodiesel will help reduce diesel hydrocarbon emissions, as well as lowering carbon monoxide and particulates. The Smithsonian is expected to fuel 25 percent of its diesel powered fleet with biodiesel in FY10 and expand its use at the

Conservation Research Center before the summer.

### **LEED Projects**

More than a dozen Smithsonian facilities projects are currently pursuing green building certification. The projects are diverse, ranging from laboratories to office suites to a house for elephants. The National Museum of the American Indian has been working to optimize energy performance, transition to green cleaning practices, improve waste management and document sustainable features of the building and site, with the goal to achieve LEED Existing Building certification.

### **SOCIAL SECURITY ADMINISTRATION**

#### **Harold Washington Center (Chicago, IL)**

In 2009, the Social Security Administration installed four urban wind energy turbines and associated photovoltaics to generate renewable electricity on the roof of the Harold Washington Social Security Center in Chicago, IL.

### **UNITED STATES POSTAL SERVICE**

#### **Morgan Facility (New York, NY)**

The U.S. Postal Service constructed the largest green roof in New York City, and one of the largest in the nation, on top of its Morgan mail processing facility. The nearly 2.5 acres of

native, drought tolerant vegetation on top of the seven story building not only serves as a park and open space for employees, but also saves energy and reduces polluted stormwater runoff by up to 75 percent in the summer and 40 percent in the winter. By combating the “heat-island” effect, the roof will also help the facility save \$30,000 on its annual energy costs.<sup>xiv</sup>

### **SMALL AGENCIES**

#### **Chemical Safety Board (DC)**

Raising awareness of low-carbon commuting and travel among employees is a cornerstone of the “green” program at the Chemical Safety Board (CSB). To date, the CSB has a 75 percent participation rate in the mass transit program, with employees using Metro rail, MARC trains, bus, or a combination of services in the DC metro area.

#### **National Archives and Records Administration (NARA) (16 locations nationally)**

The identification of low cost/no cost operation and maintenance improvements in 16 of NARA’s buildings have played a large part in NARA saving over 300,000 tons of greenhouse gas emissions since 2003. Reprogramming HVAC systems, upgrading chillers and boiler/heat exchangers to high-efficiency units, and reviewing daily operating logs throughout

NARA's buildings continue to save energy and reduce the Administration's footprint.

### **National Capital Planning Commission (DC)**

In addition to its mission-sustaining efforts to facilitate local and regional planning throughout the Washington, DC area and protect the region's natural resources, the National Capital Planning Commission strives to cut emissions at the employee level. In addition to 95 percent of its employees using alternate transportation to get to work, NCPC has implemented a robust recycling program, and staff computers are installed with automatic energy-saving and paper-reduction settings.

### **Overseas Private Investment Corporation (DC)**

Energy-saving practices are at the core of Overseas Private Investment Corporation's strategies to cut down on greenhouse gas pollution. From working with the landlord to begin to replace light switches in individual offices with motion sensor wall switches, to

encouraging participation in a teleworking program, OPIC is dedicated to going green.

### **Selective Service System (Arlington, VA)**

In an effort to make environmentally-conscious decisions in routine operations, the Selective Service System continually works with the General Services Administration to improve the buildings that house the agency in Arlington, VA including reducing energy use by removing at least half of the light bulbs in overhead lighting in common areas. The agency also mandates that, to save energy, all non-essential electronics are powered-down at the end of the workday and during the weekend.

### **Institute of Peace (DC)**

The commitment to a green program at the U.S. Institute of Peace is growing as the Institute gets ready to move into a new, high-performing building on the National Mall within 14 months. The Institute already encourages teleworking and low-carbon strategies for travel, training, and commuting among its staff.

## PROJECTS BY STATE

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### ARKANSAS

Jefferson Laboratories Complex (Jefferson, AR)

### CALIFORNIA

Fort Irwin, CA

### COLORADO

U.S. Air Force Academy (Colorado Springs, CO)  
Denver Federal Center (Lakewood,  
CO)(Lakewood, CO)  
National Renewable Energy Laboratory  
(Golden, CO)

### DISTRICT OF COLUMBIA

National Zoo (DC)  
Chemical Safety Board (DC)  
National Capital Planning Commission (DC)  
Overseas Private Investment Corporation (DC)  
Institute of Peace (DC)

### GEORGIA

Marine Corps (Albany, GA)

### ILLINOIS

Harold Washington Center (Chicago, IL)

### MARYLAND

IRS Center (Andover, MD)

### Massachusetts

Volpe Center (Cambridge, MA)

### MINNESOTA

St. Cloud Medical Center (St. Cloud, MN)

### NEW JERSEY

National Guard (Fort Dix & Sea Girt, NJ)

### NEW YORK

Morgan Facility (New York, NY)

### NORTH CAROLINA

Fort Bragg, NC  
National Computer Center (Research Triangle  
Park, NC)

### OREGON

Edith Green Wendell Wyatt Building (Portland,  
OR)

### SOUTH CAROLINA

Savannah River Site (Aiken, SC)

### TENNESSEE

Biomass Generation Plant (Oak Ridge, TN)

### TEXAS

National Wildlife Refuges (TX)  
Fort Bliss, TX

### VIRGINIA

CIA Headquarters (McLean, VA)  
Selective Service System (Arlington, VA)

### WYOMING

Wind River Job Corps Center (Riverton, WY)

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