LEADING BY EXAMPLE

A Report to the President on Federal Energy and Environmental Management (2002-2003)

October, 2004

OFFICE OF THE FEDERAL ENVIRONMENTAL EXECUTIVE
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PROMOTING SUSTAINABLE ENVIRONMENTAL STEWARDSHIP THROUGHOUT THE FEDERAL GOVERNMENT

October 18, 2004

The Honorable George W. Bush
President of the United States
The White House
Washington, D.C. 20500

Dear Mr. President:

On behalf of the White House Task Force on Waste Prevention and Recycling, I am pleased to submit to you the biennial Report on Federal Energy and Environmental Management for 2002–2003.

You have called on the Federal government to continue to lead by example, be a good neighbor, and be a good environmental steward. This report highlights the activities and accomplishments of the Federal community in meeting your charge, updates you on the progress made on the recommendations in the 2000-2001 report, and also makes new recommendations for improvements.

You will be pleased to know that:

- Almost 2,000 Federal facilities are actively pursuing environmental management systems (EMS) implementation, to provide a strategic framework for ensuring compliance with environmental requirements, integrate environmental accountability into day-to-day decision making and planning, and enable continual improvement.

- The Federal government's energy intensity (energy use per square foot) decreased 25 percent since 1985, reducing energy costs by $2.8 billion over this time span. From FY 1990 to 2003, total carbon emissions from energy used in Federal facilities declined by 2.8 million metric tons of carbon equivalent (MMTCE). This is equal to removing almost 2.1 million cars from the road for one year.

- In FY 2003, agencies reported implementing 103 alternatively-financed energy projects through which the private sector invested approximately $570 million, for a life-cycle cost savings of $1.1 billion. The Government will retain approximately $112 million of these savings (the balance will be used to pay the contractor with interest), and the Nation will benefit by reduced pollution and increased energy security associated with sustained reductions in energy use.

- In the 2002-03 time period, a total of 32 Federal buildings earned ENERGY STAR® buildings labels for their high energy efficiency. As of March 2004, agencies reported purchasing almost 552 gigawatt hours (million kilowatt hours) of green power, enough renewable electricity to service more than 54,000 average households a year.

- One hundred fifty six Federal buildings are seeking the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification, which integrates building design and construction practices with energy and environmental considerations. To date, 16 Federal buildings have received LEED certification.

- In FY 2003, the Federal fleets consumed 3.1 million gasoline gallon equivalents (GGE) of alternative fuels (such as ethanol, biodiesel, and compressed natural gas). To expand Federal alternative fuels usage, two agencies funded the installation of 34 new alternative fuel infrastructure sites in that same year. Also, in FY 2003, Federal agencies acquired nearly 21,000 alternative fuel vehicles (AFV), nearly double the AFV acquisitions from the previous year, raising the total AFV inventory to almost 81,000.

- In FY 2002, almost 733,000 Federal employees, or approximately 30 percent of the Federal workforce, commuted to work other than by single-occupancy vehicles, helping reduce traffic congestion and air pollution. A total of $261 million was invested during FY 2002 in support of these programs.

- Many Federal agencies engaged in new or substantially improved waste prevention practices involving conventional components of the municipal solid waste stream, unusual materials, such as red phosphorus marine location markers, and industrial by-products.

- Federal agencies continue to purchase millions of dollars worth of products containing recycled content. Over the last decade, the Federal government has purchased more than $3.6 billion of such products. Federal agencies and government contractors now buy more than 60 types of recycled content products designated by the Environmental Protection Agency. Federal procurement develops markets and reduces costs of recycled content products and other "green" products.

We continue to work diligently to ensure the Federal government does its part to use our resources wisely so that we can make our communities more livable, our businesses more competitive, and our world a cleaner place for future generations.

Sincerely,

(Signed)
Edwin Piñero
Federal Environmental Executive

Enclosure

PREFACE

This report was prepared by an Interagency Committee of the White House Task Force on Waste Prevention and Recycling (Task Force) to consolidate information and provide a status report on Federal compliance with environmental and energy-related Executive Orders. This is the third such biennial report developed for the President.

Section 302(a)(2) of Executive Order 13101, *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*, requires a biennial report to the President by the Federal Environmental Executive (FEE), working through the Task Force, on actions taken by Federal agencies to fulfill the requirements of all the Orders. In addition, Section 306 of Executive Order 13123, *Greening the Government Through Efficient Energy Management,* requires the Deputy Director for Management of the Office of Management and Budget (OMB), in consultation with the Department of Energy (DOE), to evaluate agencies' energy scorecards and report to the President on their progress in implementing this Order. The information in this report fulfills these requirements.

This report covers implementation of the following Executive Orders (E.O.s):

E.O. 13221	Energy-Efficient Standby Power Devices	July 31, 2001
E.O. 13150	Federal Workforce Transportation	April 21, 2000
E.O. 13149	Greening the Government through Federal Fleet and Transportation Efficiency	April 21, 2000
E.O. 13148	Greening the Government Through Leadership in Environmental Management	April 21, 2000
E.O. 13134	Developing and Promoting Biobased Products and Bioenergy	August 12, 1999
E.O. 13123	Greening the Government Through Efficient Energy Management	June 03, 1999
E.O. 13101	Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition	Sept. 14, 1998

A great deal of information on the Federal government's efforts to meet these Executive Orders and improve its stewardship can be found on the Internet, including at the following web sites:

Alternative Fuels	http://www.eere.energy.gov/cleancities/afdc/
Biobased Products and Bioenergy	http://www.ars.usda.gov/bbcc/ http://www.biobased.oce.usda.gov http://www.ofee.gov/gp/bioprod.html
Comprehensive Procurement Guidelines	http://www.epa.gov/cpg/
Electronics Stewardship	http://www.epa.gov/epr/products/electronics.html
Energy Management and Efficiency	http://www.eere.energy.gov/femp/
Environmental Management Systems	http://www.epa.gov/ems/ http://www.ofee.gov/ems/ems.htm
Environmentally Preferable Purchasing	http://www.epa.gov/epp/ http://www.ofee.gov/gp/gp.htm http://www.dlis.dla.mil/epp/default.asp
Executive Orders	http://www.ofee.gov/eo/eo.htm
Federal Fleet/AFV	http://www.eere.energy.gov/vehiclesandfuels/epact/federal/
Green Buildings	http://www.ofee.gov/sb/sb.htm http://www.sustainable.doe.gov/buildings/usgovbe.shtml http://www.epa.gov/greeningepa/ http://www.wbdg.org/
Ozone-Depleting Substances	http://www.epa.gov/docs/ozone/index.html
Pollution Prevention	http://www.ofee.gov/wpr/wpr.htm http://www.epa.gov/compliance/
Right To Know	http://www.epa.gov/tri/
Recycling, Waste Prevention, & Federal Acquisition	http://www.ofee.gov/wpr/wpr.htm http://www.epa.gov/epaoswer/osw/
Standby Power	http://www.eere.energy.gov/femp/technologies/eeproducts.cfm
Sustainability	http://www.federalsustainability.org http://www.ofee.gov/sustain/sustainability.htm http://www.eere.energy.gov/femp/technologies/sustainable.cfm http://www.eere.energy.gov/buildings

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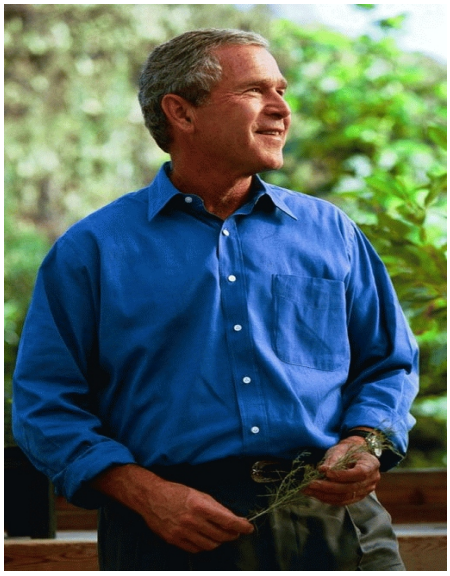
INTRODUCTION

"Good stewardship is a personal responsibility of all of us. And it's a public value. And that's what's important for Americans to understand, that each of us have a responsibility, and it's a part of our value system in our country to assume that responsibility."

President George W. Bush, Earth Day, 2002



Americans expect the Federal government, now more than ever before, to promote the general welfare of the American people. To do that, we need to be more efficient and effective than ever. We must look to the long-term and not just the short-term. In short, we need to be more focused on the sustainability of our actions and programs than ever before.

Federal agencies are faced with the challenge of meeting their missions but at the same time improving environmental performance. As a government, we are committed to the overall goals of energy security, ensuring we can compete with the global market, promoting technology transfer, and doing all of this with enhanced operational efficiency.

Every day, Federal employees are called upon to meet many challenges and to fulfill important missions that strive to improve our quality of life. Because the American people expect great things from us, we each have the opportunity and the responsibility to lead by example, to be a good steward of the resources with which we have been entrusted, to be a good neighbor in our communities, and to do all that we do with excellence – in sum, to operate sustainably in doing our job every day. We know that environmental and energy issues are integral to our operations and missions. We use materials, consume energy, and generate wastes and environmental impacts as part of our operations. Because our missions affect the environment, we must manage stewardship of the environment as part of those same missions.

Federal agencies are committed to using Environmental Management Systems (EMS) as the primary management approach to determine, prioritize, implement, and improve upon environmental issues to move toward sustainable environmental stewardship. Other tools include life cycle costing, life cycle assessment, and pollution prevention opportunity assessments. These are practices, technological applications, and methodologies that improve the environment

through the conduct of our routine mission activities, but go beyond mere compliance, and do so with a long-term perspective on our mission activities and the inherent implications for sustainability. Sustainable practices include designing green buildings, green purchasing, energy efficiency, waste prevention, and recycling. These practices address the entire life cycle of our activities, from design, to purchasing, to waste prevention, and ultimately reusing or recycling the wastes we do generate.

Fortunately, we have seen that through smart applications of the concepts and practices of sustainable environmental stewardship, we can simultaneously improve both our organizational missions performance and our environmental performance. Applying the principles of sustainable environmental stewardship has actually helped meet our missions through reduced costs and improved efficiency. These principles include concepts, strategies, tools, practices, and approaches that lead to environmental improvement in a manner that is sustainable over time, considers the long term effects as well as the shorter term, more immediate effects, and that contributes positively, even if indirectly, to the social and economic condition.

This report highlights Federal activities to advance environmental performance, good stewardship, and smart government for the period of 2002 and 2003. We discuss some of the encouraging accomplishments in the general areas of EMS implementation; waste prevention and recycling; market development through acquisition; energy efficiency, renewable energy and sustainable buildings; and transportation and fleet management.

In the previous 2000 - 2001 report, we made recommendations based on the accomplishments and progress at that time. In this report, we provide status updates on those recommendations and also make additional recommendations.

Environmental Management

Major Goals under E.O. 13148

✓ *Ensure that all necessary actions are taken to integrate environmental accountability into agency day-to-day decision making and long-term planning processes, across all agency missions, activities, and functions.*

✓ *Implement environmental management systems at appropriate Federal facilities by December 2005.*

✓ *Further reduce toxic chemical releases 40 percent by December 2006.*

✓ *Reduce the use of certain priority chemicals for identified applications by 50 percent by December 2006.*

An environmental management system (EMS) is a strategic approach to ensure that an organization's environmental priorities are integrated into its operations, planning, and management decisions. An EMS provides a mechanism to address environmental issues through measured problem identification and response, rather than crisis management. EMS requires periodic senior management review and a formal commitment to continual improvement. A well-implemented EMS ensures and improves regulatory compliance and environmental performance; increases efficiency; enhances accountability; reduces costs, risks, and potential liability; and enhances employee morale and community relations.

POLICIES

Executive Order 13148, *Greening the Government Through Leadership in Environmental Management*, established a framework for integrating environmental considerations into each Federal agency's mission through a variety of directives and goals, including the implementation of environmental management systems, reductions in releases of toxic chemicals, and elimination of procurement of ozone depleting substances. The Order requires that an EMS be implemented at appropriate Federal facilities by the end of 2005, based on a facility's size, complexity, and environmental aspects. To facilitate awareness and acceptance of the EMS concept at the facility level, agencies were required to initiate EMS pilot activities at agency facilities in early 2002. In addition, each agency was required to prepare and endorse a written agency environmental management strategy to achieve the requirements and goals of the Order. Such a policy is recognized as critical to the success of an EMS.

Management system accounting concepts, such as life-cycle assessment, environmental cost accounting, and return on investment, are also supported by the Order. Additionally, the Order requires Federal agencies to have a program in place to periodically audit facilities' compliance with environmental regulations. Findings from those audits are to be included in the budget and planning activities of the agency to ensure that non-compliance is adequately addressed.

Executive Order 13148 also calls for further improvement in the reductions of substances reported to the Toxics Release Inventory (TRI). TRI is a publicly available database maintained by the Environmental Protection Agency (EPA) that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as Federal facilities. The Order requires a 40 percent reduction in reported Federal releases by December 31, 2006, from a baseline year of 2001. Similarly, the Order supports ongoing efforts to identify substitute chemicals or processes to reduce environmental damage, risk and liability. It calls for development of a list of priority chemicals used by the Federal Government that may result in significant harm to human health or the environment and that have known, readily available, less harmful substitutes for identified applications and purposes.

ACCOMPLISHMENTS

Environmental Management Systems. During the past two years there was considerable progress across the Federal community in the development and implementation of EMSs. The consideration and inclusion of environmental stewardship efforts such as green procurement, recycling, waste prevention, beneficial landscaping and sustainable building design resulted in Federal facility EMSs that support superior environmental leadership and performance across the Federal government. While EMS implementation provides a framework for integration of these initiatives, the connection allowes many facilities and their personnel who are unfamiliar with EMS concepts to recognize and familiarize themselves with the performance support an EMS provides in pursuit of the initiative goals.

To ensure critical EMS program support, a number of Federal agencies developed and deployed EMS senior manager training materials. These materials focus on awareness and accountability and were presented in a number of formats, including live satellite broadcasts, video presentations, retreat seminars, briefings and guide books. These training materials outline the clear commitment of the Administration toward better management and accountability inherent in EMS implementation and provide a primer on the responsibilities of senior officials in achieving successful EMS implementation.

Likewise, at the field level, EMS implementation training has been extensive and widespread, with training courses held across the nation. In many cases, training sponsored by one agency or bureau is open to personnel from other agencies. This has not only allowed a greater number of EMS practitioners to be trained, it has provided a forum for sharing of information and experiences across the Federal community. This format has also prompted facilities in the same geographic region to initiate efforts to share responsibilities in addressing regional environmental issues.

To convey agency-level support for effective EMS implementation, a number of agencies have developed and distributed implementation guidance documents. While these materials range from basic EMS background information to in-depth discussions of EMS applications unique to the preparing agency, each provides a familiar format and framework for EMS implementation that allows facilities to recognize their responsibility and degree of ownership of the EMS. For example, the Department of Veterans Affairs' Veterans Health Administration, working in partnership with support from EPA and the Office of the Federal Environmental Executive

(OFEE), developed a Green Environmental Management System (GEMS) Guidebook. The GEMS Guidebook presents a nine-step process that follows the "plan-do-check-act" model and is based on the ISO 14001 international standard on environmental management. The GEMS Guidebook has been distributed to all VA medical centers and is available in an electronic format.

To ensure that EMS implementation was employed where it would be most effective, Executive Order 13148 required each agency to identify "appropriate facilities" where an EMS would be implemented. Although a number of facilities initiated the EMS process in 2001-2002, by the end of 2003, nearly every agency had completed the process of determining which of its facilities met the threshold for EMS implementation established under the Order.

EMS implementation will vary from agency to agency, ranging from an EMS at selected geographic locations, to "corporate" EMS models where a single EMS encompasses multiple sites or portions of the organization. For example, the Tennessee Valley Authority (TVA) and the General Services Administration (GSA) are taking corporate approaches. With the exception of facilities covered by corporate and managerial EMS structures, today, almost 2,000 Federal facilities are actively pursuing EMS implementation.

Facility EMS Implementation: While it is recognized that systems must be in place for several years before operations fully realize the benefits of the EMS, many facilities have completed initial planning elements of EMS development. These facilities have prepared policies that will guide their EMS commitments; reviewed activities to identify significant environmental aspects; and developed objectives and targets to direct other operational and review elements of their EMS. Some examples of these efforts are outlined below followed by experiences from Federal facilities that have EMSs already in place.

The **Depot North Island**, in California, was the first Navy facility to successfully register to ISO 14001. To address its industrial activity challenges while improving the environment, Depot North Island identified and implemented several pollution prevention projects. The EMS produced some excellent results, such as reductions in air toxics emissions by 25 percent, containerized hazardous waste by 33 percent, TRI substances by more than 75 percent, ozone depleting substances by more than 50 percent, electricity consumption by 7 percent, and water consumption by 33 percent. Since implementing these projects, the Depot has avoided $800,000 in costs and earned more than $100,000 from recycling activities.

The **US Army Fort Bragg**, in North Carolina, combined the ISO 14001 EMSs framework with its Integrated Strategic Sustainability Plan. Fort Bragg's Sustainability Management System (SMS) provides a framework for prioritizing the installation's environmental aspects and impacts while offering a solution for reducing the risk of threats to the installation's readiness. One of the many successes of the SMS is a remarkable 59 percent landfill diversion rate achieved by implementing programs to reduce land-clearing debris, limbs and yard waste by turning it into mulch, crushing concrete from demolition projects into gravel for on-going erosion control projects, and establishing a curbside recycling program.

DOE's **Battelle Memorial Institute**, in Ohio, has established EMSs in three of its laboratories that focus on environmental hazard identification, control and monitoring throughout the work life-cycle. Both the Brookhaven National Lab (BNL) and the Pacific Northwest National Lab (PNNL) EMSs are ISO 14001 registered, and the Oak Ridge National Lab (ORNL) has scheduled its program's registration audit for 2004. Their EMSs place great emphasis on achieving full environmental compliance, enhanced pollution prevention, and an effective communications and community outreach program. So far BNL and PNNL documented a combined $17 million in savings or costs avoidance from pollution prevention efforts.

The **Defense Supply Center Richmond,** in Virginia, partnered with Virginia Department of Environmental Quality, the City of Richmond and Chesterfield County to pursue joint, concurrent EMS implementation. The Virginia Regional Environmental Management System, or V-REMS, has not only improved communication with stakeholders, but it has opened many doors to cooperation and improved environmental and mission performance. By meeting together to work on EMS issues, the partnership promoted identification of regional environmental issues that could be most effectively addressed through joint, cooperative efforts. An example of this cooperation is reflected in their efforts to respond to Richmond's ozone non-attainment area status by each partner voluntarily looking at ways to reduce air emissions.

Toxic Chemical Pollution Reductions. Executive Order (E.O.) 13148 calls for a 40 percent reduction in on-site releases and off-site transfers for treatment and disposal of Toxic Release Inventory (TRI) chemicals by December 31, 2006, from a baseline of 2001. Reported figures for Federal facilities in 2001 totaled about 79 million pounds. The reduction target for the entire Federal community is therefore approximately 32 million pounds.

In calendar year 2003, a total of 315 Federal facilities reported releases, an increase of 10 percent from the 286 facilities reporting in 2001. This was due in great part to 24 new Air Force sites who began reporting. For the Federal sector, the total production-related managed waste decreased by six percent, due in part by the Philadelphia US Mint decreasing coin production. The data also show total on and off-site disposal or other releases from Federal facilities increased by nine percent, attributed primarily to the type of coal used by one coal burning power generation facility at the Tennessee Valley Authority (TVA).

Priority Chemical Reductions. The Executive Order also calls for a 50 percent reduction in the use of certain chemicals for identified applications and purposes by the end of 2006. In May 2004, EPA, in coordination with the OFEE, affirmed that mercury in switches and measuring devices, cadmium in electroplating processes, lead in soldering, naphthalene in pesticides and polychlorinated biphenyls in insulating materials (dielectric fluids) should be considered for the purposes of this effort. The E.O. 13148 Interagency Workgroup is developing guidance to assist agencies and facilities in implementation of the requirements.

WASTE PREVENTION AND RECYCLING

Major Goals under E.O. 13101

- ✓ *Incorporate recycling and waste prevention practices in Federal agencies' daily operations.*
- ✓ *Meet 35 percent waste diversion rate by 2005.*
- ✓ *Develop government-wide strategies to further implement recycling and waste prevention practices.*
- ✓ *Test and evaluate EPA's environmentally preferable purchasing principles and concepts through pilot projects.*
- ✓ *Develop and implement agency specific affirmative procurement programs for items made with recovered materials.*

The Federal government is committed to preventing pollution, reusing items where possible, and recycling what cannot be reduced or reused. Practically every Federal government office has a recycling program in place to collect items such as aluminum cans, glass bottles, and office paper. Other items, such as electronic equipment, motor oil, and construction debris, are routinely part of the recycling efforts at many Federal facilities. By purchasing items made from recycled materials, Federal agencies bolster markets for those materials, helping preserve energy and resources for future generations.

POLICIES

Executive Order 13101, *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*, strengthens and expands the Federal government's commitment to recycling and waste prevention. The Pollution Prevention Act of 1990 established a national policy to prefer pollution prevention, whenever feasible. Pollution that cannot be prevented should be recycled; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner. Disposal should be employed only as a last resort.

E.O. 13101 requires Federal agencies to establish long-term goals for waste prevention, materials collection or diversion. In 1999, the Federal government established a recycling goal of 35 percent waste diversion by 2005, mirroring EPA's goal for the nation.

ACCOMPLISHMENTS

Recycling. According to EPA, the national percentage of municipal solid waste recovered remained at 30 percent in 2001. Recycling, including composting, diverted 68 million tons of material away from landfills and incinerators in 2001, up from 34 million tons in 1990. Typical materials that are recycled include lead acid batteries, recycled at a rate of 94 percent, paper and paperboard at 45 percent, and yard trimmings at 57 percent. These materials and others may be recycled through curbside programs, drop-off centers, buy-back programs, and deposit systems.

Federal agencies continue their efforts to meet the 35 percent goal by maintaining and expanding their recycling programs. Data reported by the three largest procuring agencies – **Department of Defense (DOD)**, **Department of Energy (DOE)**, and **National Aeronautics and Space Administration (NASA)** – indicate that in FY 2003 all or nearly all of their offices, sites, and residential housing (where available) have recycling programs. Waste diversion rates for these three agencies varied from 23 percent to nearly 50 percent. The **General Services Administration (GSA)**, **Department of Veterans Affairs (VA)**, and **Department of Transportation (DOT)** offer recycling at more than 40 percent of their facilities, with substantial diversion rates. Most of these agencies have increased recycling of construction and demolition debris. They also increased their usage of composting facilities, which further removes organics from the waste stream and thereby contributes to greater sequestration of carbon and reductions in the emission of greenhouse gases.

Other agencies also are recycling at rates near or higher than the national 35 percent goal. In FY 2002, the **State Department** reported a 30.5 percent recycling rate. The **Tennessee Valley Authority (TVA)** diverted 47 percent of its waste stream, including construction and demolition debris. The **National Security Agency** diverted more than half of its waste as part of its "Goldmine" recycling program. Even small agencies, such as the **Railroad Retirement Board**, recycled 33 percent of their waste stream in FY 2002.

In FY 2003, the **EPA** launched the Resource Conservation Challenge (RCC), a major national effort to find flexible, yet protective, ways to conserve our national resources. It challenges all Americans - makers of goods, sellers of goods, and buyers of goods - to prevent pollution and promote recycling and reuse of materials, reduce the use of toxic chemicals, and conserve energy and materials. For example, "Plug-In to eCycling," a nationwide campaign to reuse and recycle old computers, TVs, and cell phones, is one of many new efforts under EPA's RCC which seeks to increase the national recycling rate to 35 percent and cut the generation of 30 harmful chemicals.

EPA **Region 3** teamed up with electronics manufacturers to recycle residential electronics as part of a pilot program in the Mid-Atlantic States. The project, dubbed "eCycling," encouraged consumers to recycle end-of-life computers and televisions. Region 3 launched eCycling in FY 2002, sponsoring 46 collection events in 35 jurisdictions. The pilot program diverted 2,500 tons of electronics from landfills, including 22,000 cathode ray tubes – the single largest source of contamination from electronics due to their lead content.

In FY 2002, **Wright-Patterson Air Force Base,** in Ohio**,** collected more than 29 million pounds of solid waste and diverted 9 million pounds from landfill disposal. The base has saved more than $3 million since 1995 and increased recycling by 23 percent per person. The base program recycled 6 million aluminum cans in its "Kans for Kids" program, and used earnings to resurface playgrounds at the base's childcare facilities with 100 percent recycled materials. In another project, the "Recycling Old Tennis shoes" collection event, old tennis shoes were ground up and used to make footballs, baseballs, and weight room flooring.

The **Nuclear Regulatory Commission (NRC)** continues to recycle a broad range of materials, including various grades of paper, metal, plastic, and glass beverage containers, pallets, fluorescent bulbs, laser toner cartridges, ink jet cartridges, and batteries. The recycling program generated more than $200,000 in revenue since 1996. NRC also established a "Green Team" of volunteers working together to encourage recycling.

Waste Prevention. In addition to recycling waste materials, Federal agencies are looking for ways to reduce the generation of waste. Many Federal agencies engaged in new or substantially improved waste prevention practices in FY 2002 and 2003 involving both conventional components of the municipal solid waste stream, unusual materials, and industrial by-products.

The **Crane Army Ammunition Activity**, a tenant of the Crane Division, Naval Surface Warfare Center, Indiana, had planned on incinerating more than 27,000 marine location markers that failed acceptance tests, at a cost estimated to be more than $600,000. The markers are designed for use in air and sea rescue operations and contain red phosphorus, which requires disposal by costly incineration. Crane examined the marine location marker process, overcame design obstacles, and implemented an innovative demilitarization method that found a new use for rejected red phosphorus candles. Crane was able to successfully reuse more than 52,000 pounds of red phosphorus, resulting in cost savings of more than $2 million and an improved waste diversion rate of 80 percent.

The **US Coast Guard Base Support Center Elizabeth City**, North Carolina, which is now part of the Department of Homeland Security, implemented a pollution prevention program that eliminated 82 percent of hazardous waste and reduced air pollutants by 90 percent. The facility started a hazardous materials pharmacy to serve as a central point for procurement, storage, and issuance of all hazardous materials. The facility also is using biodiesel in the delivery vehicle used to transport hazardous materials from the pharmacy to users on the facility and other facility equipment.

An increasing number of Federal facilities are exploring the option of deconstruction of buildings, as an alternative to demolition at the end of a building's life-cycle. Deconstruction refers to the disassembly of a building to maximize reuse and recycling of its materials. **Ft. Campbell** in Kentucky deconstructed five buildings (more than 20,000 square feet total) in 2003, successfully diverting more than 580 tons of material from landfilling, an 85 percent diversion rate. As part of a partnership with the Army Corps of Engineers Construction Engineering Research Lab (CERL), EPA, USDA Forest Products Lab, University of Florida and Habitat for Humanity, this deconstruction project was carefully analyzed and documented, and the results are being used to promote successful deconstruction at other bases across the country.

MARKET DEVELOPMENT THROUGH ACQUISITION

Market Development Goals Under Energy and Environmental E.O.s

- ✓ *Protect the environment and promote economic growth through the purchase of recycled content products, environmentally preferable products and services, biobased products, energy efficient products and services, and the use of alternative fuels and ozone-friendly substances.*
- ✓ *Develop and implement Federal agency programs to increase and expand markets for recovered materials, energy efficient, biobased, renewable, and environmentally preferable products and services.*

The U.S. government is the single largest consumer in the nation. It can help conserve our resources by using its $240 billion purchasing power, and an additional $200 billion in grant allocations, to develop and enhance markets that support environmentally preferable and energy efficient practices. By giving full weight to environmental and energy factors in its purchasing decisions, the government can significantly influence its suppliers, their product design, and pricing policies, as well as purchasing practices of its grant recipients. As one of the largest purchasers of goods and services in the world, the U.S. government can set a positive example by reducing unnecessary waste and toxicity, conserving energy, using renewable energy, and buying recycled content, energy efficient, biobased, and ozone depleting products.

POLICIES

Since 1976, it is Federal policy to use the Federal government's purchasing power to create and sustain markets for products with specific environmental and energy attributes. Purchasing these products not only conserves natural resources but helps to demonstrate the performance and cost-effectiveness of the products. A variety of laws and executive orders require Federal agencies to purchase products with the following environmental and energy attributes: recycled content, energy efficient, renewable energy, energy-efficient standby power devices, alternative fuels, biobased content, non-ozone depleting, and environmentally preferable.

Section 6002 of the Resource Conservation and Recovery Act of 1976 (RCRA) and Executive Orders 13101, 13148, and 13149 require Federal agencies to give preference in their procurement and grant programs to the purchase of specific recycled content products identified in EPA's Comprehensive Procurement Guideline (CPG). Agencies are required to prepare affirmative procurement plans for purchasing the EPA-designated items. In the guidelines, EPA designates recycled content products and also recommends purchasing practices, such as minimum recycled content standards. Executive Order 13101 also encourages Federal agencies to purchase environmentally preferable products and services. RCRA also requires that the Office of Federal Procurement Policy (OFPP) report to the Congress biannually on the progress of agencies to comply with the preferential procurement mandate.

Executive Order 13123 requires Federal agencies to purchase ENERGY STAR® and other energy efficient products whenever life-cycle cost effective. For product groups where ENERGY STAR® labels are not yet available, agencies are required to select products in the upper 25 percent of energy efficiency as designated by DOE's Federal Energy Management Program (FEMP). In addition, under E.O. 13221, agencies are required to purchase products that use minimal standby power when possible.

The Energy Policy Act of 1992 (EPAct) and Executive Order 13149 require that in FY 2000 and beyond, 75 percent of Federal acquisitions of light duty vehicles in covered fleets are to be alternative fuel vehicles. Through a combination of AFV acquisitions, increased usage of alternative fuels, and other actions, agencies are required to decrease the annual petroleum consumption of Federal fleets by 20 percent by 2005, compared to 1999 consumption.

The Farm Security and Rural Investment Act of 2002 (FSRIA) requires Federal agencies to give preference in their procurement programs to the purchase of specific biobased content products designated by the U.S. Department of Agriculture (USDA).

The Clean Air Act and Executive Order 13148 direct Federal agencies to maximize the purchase and use of safe, cost-effective alternatives to Class I ozone-depleting substances for all non-excepted uses by December 31, 2010.

ACCOMPLISHMENTS

Recycled Content Products. Nearly 20 years ago, EPA issued the first set of procurement guidelines for recycled content products. EPA's list now contains more than 60 recycled content products. On April 30, 2004, EPA designated an additional seven products; purchasing of these seven products will begin in the spring of 2005. All "major procuring agencies" – that is, Executive agencies that procure over $50 million per year of goods and services – are required to establish affirmative procurement programs and purchase the EPA-designated products.

For the FY 2002-2003 reporting cycle, the top six procuring agencies (DOD, DOE, NASA, GSA, VA, and DOT) reported on their purchases of the EPA-designated products using a new reporting format. The new reports include data drawn from the Federal Procurement Data System (FPDS) on the procurement of contracts larger than $25,000, the percentages of purchase card holders and contracting personnel trained during the reporting period, and data on agency purchases of eight indicator CPG items.

According to the agencies' FPDS data, recycled content products would not be supplied or used in more than 95 percent of the contracting actions in FY 2002 and FY 2003. While the agencies have just begun to assess the FPDS data, we believe the data do not accurately reflect the range of products that can be supplied or used as part of support services contracts. The White House Task Force on Waste Prevention and Recycling revised its training for contracting personnel to emphasize that recycled content and other green products are often supplied or used and that contracts should require the contractor to supply or use green products.

To aid in assessing progress, agencies reported on eight indicator CPG products. In FY 2002 and 2003, high percentages of the six largest purchasing agencies' purchases of paper products, including tissue and towel products, contained recycled materials. Purchases of the other seven indicator products varied considerably from product to product and agency to agency. No trends can be reported from these data.

Beginning in FY 2004, all procuring agencies will report to OFPP and the Task Force on their purchases of the EPA-designated recycled content products.

ENERGY STAR®. The ENERGY STAR® labeling program is a joint effort between EPA and DOE to encourage manufacturers (and some retailers) to identify energy efficient products with an easily recognizable logo, the ENERGY STAR®. Presently, the program includes a wide variety of office equipment and home heating and cooling products, as well as many consumer audio and video products (e.g., TVs, VCRs, and DVD players), appliances, and residential windows. Some commercial equipment is also covered, such as unitary ("rooftop") air conditioners, exit signs, low-voltage distribution transformers, and roof products.

The National Energy Plan recommended extending the ENERGY STAR® labeling program to additional products, appliances, and services; DOE and EPA are working to do that. Telephony, including cordless telephones and answering machines, is among the newest additions to the ENERGY STAR® family of products. The ENERGY STAR® program also applies to energy efficient buildings, which is described in the next chapter.

DOE's Federal Energy Management Program (FEMP) developed Product Energy Efficiency Recommendations that have been delivered to approximately 5,000 Federal energy managers, procurement officials, and product specifiers. These recommendations identify the upper 25 percent efficiency level for more than 40 product types, provide information about additional purchasing criteria and considerations, and present cost-effectiveness examples. Federal purchasers can easily access information on these products via direct links between the ENERGY STAR® and FEMP web sites.

Pursuant to E.O. 13221, *Energy-Efficient Standby Power Devices*, FEMP, in collaboration with GSA, the Defense Logistics Agency (DLA), and the ENERGY STAR® program, developed a list of office, video, and audio products and other appliances that use minimal standby power. FEMP worked closely with all of the leading office product and consumer electronic manufacturers to develop low standby power recommendations and influence the design of current and future products containing both internal and external standby power devices. On July 24, 2003, the Federal Acquisition Regulation (FAR) was amended to incorporate the E.O. 13221 requirement.

The President's initiative has spurred major manufacturers in the U.S. and around the world to begin significantly redesigning their products to reduce standby power. As an example of E.O. 13221's impact, Power Integrations, a manufacturer of high-efficiency switch-mode power supplies, directly cites the Executive Order in its marketing literature, and Dell Computer has now committed to manufacturing all its desktop computers to consume less than 1 watt in standby power – a feature that will not only save energy for the Federal government but will benefit all

consumers. As a result, DOE estimates that the Federal government will save approximately $14 million in annual energy costs and enough electricity to power about 20,000 homes. Furthermore, U.S. consumers will save approximately $300 million in annual energy costs and enough energy to power approximately 350,000 homes.

Additional low standby power products are added to DOE's list on an ongoing basis. Most recently, DOE issued recommended low standby levels for microwave ovens. Manufacturers and government purchasers can submit and view the most up-to-date information on devices with low standby power on FEMP's web site.

Renewable Energy. Agencies are also using their purchasing power to help create larger markets for renewable energy. As of March 2004, Federal agencies reported purchasing almost 552 gigawatt hours (million kilowatt hours) of green power, enough renewable electricity to service more than 54,000 average households a year. In many cases, agencies have found innovative ways of applying their energy cost savings from efficiency improvements and competitive electricity contracts to purchase more renewable energy.

In early 2003, **Dyess Air Force Base** purchased 78 gigawatt hours of wind generated energy–enough for its entire base load. The purchase made Dyess the first military installation to use 100 percent renewable power and the largest wind power purchaser in the United States. At the time of the purchase, because of the base's size and its yearly power consumption, the single purchase represented more than 20 percent of the Federal government's procurement of renewable power.

GSA has demonstrated its commitment to renewable power by contracting to purchase renewable power in California, Pennsylvania, New Jersey, New York, Texas, and Washington, DC. In FY 2003, GSA purchased more than 29 gigawatt hours from renewable sources. More recently, GSA awarded its largest-ever green power procurement contracts in the greater New York area, representing a total of 92.7 gigawatt hours. Seventy-five gigawatt hours will be used for GSA owned and operated buildings, with the remaining power to be used by other agency facilities.

EPA has also shown a continued commitment to the use of renewable energy. Since FY 2001, five laboratories have been purchasing 100 percent green power: Richmond, California; Chelmsford, Massachusetts; Golden, Colorado; Manchester, Washington; and Cincinnati, Ohio. In FY 2003, EPA began delivery of 100 percent green power to its laboratory in Houston, Texas and its Region 2 office in New York City, as well as significant portions of a laboratory in Edison, New Jersey. EPA also signed contracts for green power purchases in Research Triangle Park, North Carolina and the headquarters buildings in the Federal Triangle complex in Washington, DC. EPA also contracted to receive 111 gigawatt hours of green power annually, which represents 40 percent of its electricity use for offices and laboratories.

As the nation's largest public power provider, **TVA** developed the largest renewable energy program in the Southeast. This program consists of certified green power generated from wind,

solar, and methane gas. In 2003, TVA produced 27.4 GWh of renewable power consumed by 7,350 residential customers and more than 330 businesses, universities, and government entities.

In addition to buying renewable power from utilities, agencies are installing renewable technologies and generating power at their sites. For example, Federal agencies installed 3,443 solar energy systems by the end of 2003. E.O. 13123 sets a goal for the Federal government of installing 20,000 solar energy systems by 2010.

In FY 2003, FEMP worked with the **Department of the Interior** and the **Bureau of Land Management** (BLM) to publish "Assessing the Potential for Renewable Energy on Public Lands." The study concludes that there is high potential to develop one or more renewable solar, wind, biomass, or geothermal energy resources on public lands in 11 western states, and similarly high potential to develop three or more renewable resources in seven states. BLM will use the report's findings to prioritize land-use planning activities related to renewable energy resources and to increase the development and use of renewable energy resources on public lands.

Alternative Fuels. In 2003, President Bush announced his Hydrogen Fuel Initiative to reverse America's growing dependence on foreign oil by developing the technology for commercially viable hydrogen-powered fuel cells to power cars, trucks, homes and businesses with no pollution or greenhouse gases. Combined with the FreedomCAR initiative, the President is proposing a total of $1.7 billion over the next five years to develop hydrogen-powered fuel cells, hydrogen infrastructure, and advanced automotive technologies. Both initiatives have the potential to reduce our demand for oil by more than 11 million barrels per day.

Federal agency purchases of alternative fuel vehicles are discussed in the Transportation and Fleet Management section of this report.

Biobased Products. USDA began to implement the Federal Biobased Products Preferred Procurement Program under FSRIA by publishing a proposed rule establishing the program's framework. USDA expects to begin proposing biobased products for Federal procurement in the fall of 2004. Supporting activities include:

- Development of information that will support designations of biobased products for Federal agencies to purchase.
- Creation of a model affirmative procurement program for biobased products for use both internally by USDA's operating agencies and externally by other Federal agencies.
- Establishment of a web-based information system to provide current information on the program, including information posted by product manufacturers and vendors.
- Drafting of revisions to the Federal Acquisition Regulation to implement the program.

OFEE encourages Federal agencies to purchase, test, and use biobased products. In addition to increasing their usage of ethanol and biodiesel, Federal agencies have been using biobased

cleaning products, hydraulic fluids and lubricants, landscaping materials, and construction products.

USDA's Beltsville Agricultural Research Center (BARC), Maryland, has been a leader in purchasing, testing, and using biobased products. BARC uses biodiesel in more than 150 vehicles and other equipment, its heating plants, and all back-up generators. In addition to biodiesel, the center utilizes a variety of biobased products on a regular basis. BARC uses biobased oils and lubricants in its maintenance operations and has installed 3,000 square feet of soy-backed carpet in several office areas. BARC also required its janitorial services contractor to use environmentally preferable cleaning materials including biobased products.

More agencies are using cleaner-burning biodiesel as part of their overall environmental stewardship efforts. For example, **Fort Bragg,** in North Carolina**,** used about 8,000 gallons of B20 (a blend containing 20 percent vegetable oil and 80 percent low sulfur diesel fuel) in 15 pieces of off-road equipment in fiscal year 2003. The Department of Homeland Security**, Coast Guard Air Station**, in Cape Cod, Massachusetts, used approximately 5,000-8,000 gallons a year of biodiesel in all its diesel equipment - about 40 pieces in all including fuel trucks, tow tractors (mules), dump trucks and generators. **Wright-Patterson Air Force Base**, in Ohio, purchased almost 140,000 gallons of biodiesel in 2002.

Defense Energy Support Center (DESC)**,** in Fort Belvoir, VA worked with the Department of Energy and the Office of the Secretary of Defense to become proactive in the implementation of biobased alternative fuels in Federal government fleets. Specifically, DESC led the way for the military services and Federal civilian organizations in the procurement of B20 and E85 (a blend containing 85 percent ethanol and 15 percent gasoline). DESC worked with agencies such as the U.S. Postal Service, DOE, USDA and the National Park Service to purchase B20 and E85. The requirements for 2001 totaled 565,000 gallons for E85 and 1.4 million gallons for B20. This increased to more than 5 million gallons of B20 for 2002.

Non-Ozone Depleting Substances. Federal Agencies continue to phase out ozone depleting substances throughout their operations. For example, **Lawrence Berkeley National Laboratory**, in California, reduced its usage of Class I ozone depleting substances by about 99 percent since 1991 by replacing solvent cleaning systems, converting centrifugal chillers and research equipment, installing and converting refrigeration and freezer systems, installing leak detection sensors, and issuing an ozone depleting substance purchasing policy and guidelines to purchasing staff. In addition, several DOE laboratories are removing Halon fire suppression systems, and the Western Area Power Administration eliminated the use of ozone depleting solvents.

The **USDA Agricultural Research Service's Water Management Research Laboratory**, in California, is researching alternatives to fumigation with methyl bromide. Methyl bromide is used to control pests and diseases in soils before fruit and vegetable crops are planted. It has recently been determined to be an ozone depleting substance. The team demonstrated an alternative fumigant drip irrigation system on eighteen strawberry fields, leading to an accelerated

phase out of methyl bromide for some growers. The impact of the team's research will certainly be global, as the restrictions on methyl bromide usage are international.

NASA's White Sands Test Facility (WSTF), in New Mexico, has virtually eliminated CFC-113 (Freon) in cleaning spacecraft parts and components. WSTF now uses an aqueous process which cleans as well as or better than the use of Freon. WSTF's approach to virtually eliminating Freon included conservation, alternative water-based processes, ozone friendly solvent alternatives, and advanced processes to reduce solvent usage and conserve supplies. New processes and solvent alternatives eliminated an annual usage of 3,870 gallons of Freon.

Environmentally Preferable Products and Services. Federal agencies continue to define, purchase, and test a variety of environmentally preferable products and services.

In an effort to incorporate Green Purchasing into more public settings, **EPA's Environmentally Preferable Products (EPP) Program** recently supported the Oceans Blue Foundation in the development of an online Green Meetings Tool. The tool, available at Oceans Blue Foundation's web site at http://www.bluegreenmeetings.org, shows meeting planners and service suppliers how to incorporate green principles into every aspect of conference and meeting planning.

The **Defense Logistic Agencies**' Environmentally Preferable Products initiative is a collaborative effort, in partnership with the military services and other Federal agencies. DLA developed a set of standards using environmental attribute criteria from recognized environmental organizations such as EPA, DOE and the California South Coast Air Quality Management Board, and applied those criteria to products in the Federal Catalog System. To date, approximately 5,000 products are identified as environmentally preferable.

Under the Hospitals for a Healthy Environment Program, the **Veterans Health Administration** is partnering with EPA in a biobased cleaners/bio-threat/toxic mold remediation pilot project. The project's goals include increasing purchases of environmentally preferable products and the continued reduction of mercury-containing product purchases.

With assistance from EPA, **GSA's Public Building Service** created model green cleaning clauses to be inserted into building leases in order to direct janitorial contractors to use green cleaning products and practices. Several GSA regions requested that janitorial contractors switch to cleaning products lower in volatile organic compound content. GSA also began a partnership with NISH affiliates to increase the use of environmentally preferable janitorial cleaning products. In addition, GSA is specifying green products, including environmentally preferable products, in its construction contracts.

Energy Efficiency, Renewable Energy and Sustainable Buildings

Major Energy and Water Conservation Goals under E.O. 13123

- ✓ *Reduce building energy use per square foot by 30 percent by 2005, and by 35 percent by 2010, compared to 1985.*
- ✓ *Reduce energy consumption of industrial and lab facilities by 20 percent by 2005 and by 25 percent by 2010, relative to 1990.*
- ✓ *Meet ENERGY STAR® building criteria to the maximum extent possible.*
- ✓ *Use renewable energy sources to generate the equivalent of 2.5 percent of facility electricity consumption by 2005.*
- ✓ *Implement best management practices for water efficiency in 80 percent of Federal facilities by 2010.*

As the Nation's single largest energy user, the Federal government can lead the nation in becoming a cleaner, more efficient energy consumer. In 2003, the Federal government spent nearly $9.6 billion to provide energy to its buildings, vehicles, and operations. Almost 50 percent of the government's energy bill is spent on heating, cooling, and powering its 500,000 buildings. Legislation dating back to 1975, as well as recent Executive Orders, recognize that numerous opportunities exist for improved energy management within the Federal government. Efforts to improve energy management in the Federal sector will also help to expand markets for renewable technologies, reduce air pollution, and serve as powerful examples to American businesses and consumers.

POLICIES

The Energy Policy Act of 1992 (EPACT) directed Federal agencies to reduce building energy use by 20 percent by 2000 compared to the 1985 base year. To help agencies achieve this goal, EPACT provided alternative financing tools for agencies to implement energy savings projects with private sector funding. Executive Order 13123 expanded Federal energy management goals and opportunities. The Order directs Federal agencies to reduce their energy intensity 30 percent by 2005 and 35 percent by 2010. As directed by E.O. 13123, DOE established new Federal government goals for renewable energy and water conservation.

To implement E.O. 13123, DOE, working in consultation with member agencies of the Interagency Federal Energy Management Task Force, issued several documents, including guidance that established water conservation and renewable energy goals.

President Bush's National Energy Policy (NEP) recognizes enormous opportunities for the Federal government to save energy and enhance its environmental performance. The Federal government has a clear mandate to lead by example with smart energy management, including installation of energy retrofits in existing buildings, incorporation of energy considerations in the

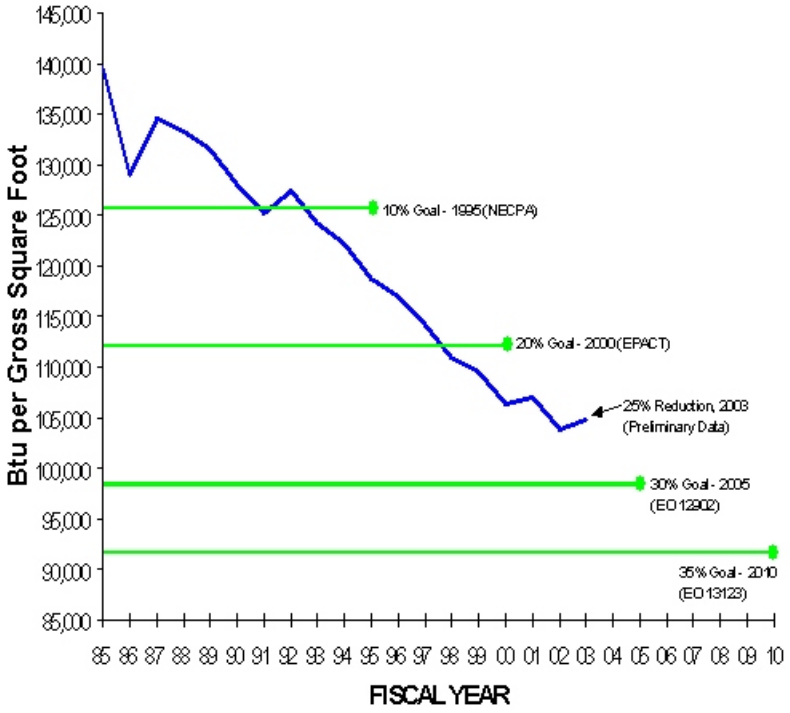
design of new facilities, procurement of energy efficient and renewable energy products, improved operations and maintenance, and more effective utility load management.

In July 2001, with the issuance of E.O. 13221, *Energy-Efficient Standby Power Devices*, President Bush called for further Federal leadership in energy management. E.O. 13221 directed Federal agencies to purchase products that use minimal standby power when possible. Standby power is the electricity used by many office and consumer products (e.g., computers, appliances, televisions, video cassette recorders) when they are turned off. For more information on how the Federal government is purchasing renewable energy and energy efficient equipment, including low standby power products, see the chapter entitled, "Market Development Through Acquisition."

ACCOMPLISHMENTS

Agencies have made significant progress in their energy management efforts, in particular in the area of energy efficiency. FY 2003 agency energy data indicate the Federal government has reduced its energy intensity (Btu per square foot) in standard buildings (such as office buildings, warehouses, schools, etc.) by 25 percent compared to the 1985 baseline.

Progress Toward Energy Reduction Goals for Standard Federal Buildings



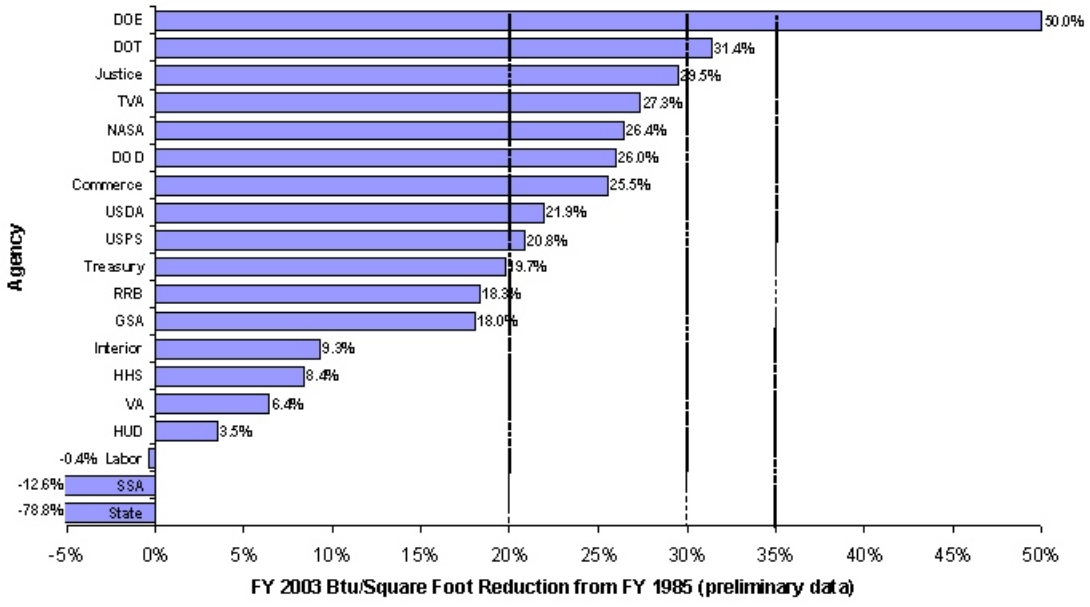
Total carbon emissions from energy used in all Federal facilities declined 19.0 percent from 14.9 million metric tons of carbon equivalent (MMTCE) in FY 1990 to 12.1 MMTCE in FY 2003. This reduction of 2.8 million MMTCE is equal to removing almost 2.1 million cars (or almost 1.7 million sport utility vehicles) from the road in a year.

In FY 2003, the Federal government lowered its total facility energy costs 37.5 percent, from $7.6 billion in 1985 (in 2003 constant dollars) to $4.7 billion. Approximately $1.2 billion of this $2.8 billion savings is attributable to energy management activities by the agencies, with the remaining savings resulting from changes in building stock, fuel mix and prices, and other variables.

FY 2003 Energy Scorecards. Agencies documented their progress in meeting the E.O. 13123 requirements on scorecards submitted to OMB in January 2004. The most relevant findings include:

- In FY 2003, agencies invested more than $140 million of direct expenditures in energy efficiency, renewable energy, and water conservation projects. Estimated life-cycle cost savings from this investment are approximately $420 million.
- In FY 2003, agencies implemented 103 energy projects using alternative financing with a total private sector investment of approximately $570 million. Total life-cycle cost savings from this investment are approximately $1.1 billion, approximately $112 million of which will be retained by the government during the life of the contract.
- Agencies reported more than 8,600 operating renewable energy technology installations government-wide during FY 2003, including almost 1,300 solar photovoltaic projects; 7,254 solar thermal, geothermal, and geothermal heat pump installations; 19 biomass projects; 12 wind projects; and 50 other renewable energy projects.
- In FY 2003, agencies purchased a total of 552 gigawatt hours of electricity generated from renewable resources.

Agency Progress Toward Energy Reduction Goals for Standard Federal Buildings



The chart above shows the reductions in energy intensity made in standard buildings between the FY 1985 base year and FY 2003 by the 17 largest energy-consuming Federal agencies. Seven of these agencies are on-track to meet the 30 percent reduction goal in 2005.

Federal facilities continue to lead in the challenge to increase energy security. Innovative approaches to energy management strategies, use of leading-edge technologies, alternative financing tools, public outreach and communication programs, water management programs and renewable energy projects are helping to meet growing energy demands while driving new markets for advanced technologies.

For example, the **Naval Facilities Engineering Command (NAVFAC)** Energy Program has saved more than 900 billion Btu per year, enough energy for 8,900 typical homes. The NAVFAC Energy Program used alternative financing mechanisms to fund energy efficiency improvements that produce significant guaranteed energy cost savings; installed renewable energy technologies and highly energy-efficient cogeneration plants, reducing dependence on power from the electric grid; used sustainable building design standards in planning for construction of all new buildings; and developed internet-based energy reporting tools to better track (and ultimately reduce) energy use and costs.

The Division of Facilities Engineering at the **Food and Drug Administration's Jefferson Laboratories** has been aggressively pursuing energy savings on campus for more than 20 years, reflecting the dedication and long-term commitment of top management. Some specific projects include equipment retrofits and conservation actions identified by the industrial assessment audit, a natural gas procurement agreement reducing costs by 21.5 percent, lighting retrofits, and a comprehensive district cooling system upgrade for the entire campus.

The **U.S. Postal Service Pacific Area's** Strategic Energy Management Plan enables the USPS to save millions of dollars in energy costs, significantly reduce electricity consumption, and mitigate the impact of USPS operations on the environment. The Plan created a framework that includes an effective administrative structure, energy management tools for data collection and reporting to management and staff, performance goals, contractual vehicles, and implementation tools to evaluate and complete numerous energy efficiency projects.

Compared to the previous year, the **US Army's Fort Carson** avoided costs of more than $2.3 million on its utility bills for electricity, natural gas, and water. Fort Carson achieved this success with a comprehensive energy program based on a "top-down" command emphasis on energy awareness and forward-thinking project implementation. Nearly 250 persons from Fort Carson, the local community, the state government, and other interested parties participated in a three-day conference to establish 25-year sustainability goals for Fort Carson. Twelve long-term goals were established, which included goals for increased renewable energy use, improved energy efficiency, and significant water usage reductions.

Alternative Financing Tools for Energy and Water Improvements. Agencies are increasingly using alternative financing, including energy savings performance contracts (ESPC) and utility energy service contracts (UESC), to implement energy efficiency and renewable energy improvements. With these innovative tools, agencies can use private financing to pay for energy and water improvements and then pay back the energy service company or utility through future savings on their utility bill.

From FY 1988 through FY 2003, private sector companies invested more than $2.8 billion in Federal facilities, making these facilities more energy efficient at no net cost to taxpayers. Estimated savings from these privately-financed projects contributed approximately 29 percent to the reductions seen in standard building energy use since 1985. DOE's Federal Energy Management Program, the Army Corps of Engineers, the Air Force, and GSA's Energy Center of Expertise assist agencies in using these tools.

High Performance Buildings. E.O. 13123 directs Federal agencies to apply the principles of sustainable design to the siting, design, and construction of new facilities. These principles include energy efficiency, reduced consumption of land and other non-renewable resources, minimization of waste materials and water use, and creation of a livable, healthy, and productive work environment. As addressed in E.O. 13101, sustainable design also incorporates a wide range of recycled content, energy and water efficient, and environmentally preferable materials, helping to promote markets for these products.

At present, 156 Federal buildings have declared their intent to seek the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Certification. LEED is a comprehensive system for designing and constructing sustainable buildings which integrates today's accepted building practices with newly emerging energy and environmental information. To date, 16 Federal buildings have already received LEED certification.

A total of 130 Federal buildings have earned the ENERGY STAR® building label since 1999, 32 of those in the 2002-03 period. ENERGY STAR® is a symbol of energy efficiency established by the EPA and DOE. Buildings that are among the top 25 percent nationwide in terms of energy performance (earning a benchmark 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 October 2003, the Federal Energy Management Program recognized several of these buildings as outstanding examples of energy efficiency in the Federal sector.

With a score of 96, the **VA Puget Sound Health Care System**, Seattle Division, has been achieving its goals incrementally while maintaining the primary goal of quality patient care. Energy efficiency upgrades have included the replacement of exit sign lamps with Light Emitting Diodes (LEDs), electronic ballast and lamp replacements, and installation of variable frequency drives and high efficiency motors on HVAC equipment. The project costs have totaled $2.5 million dollars, saved approximately 14 billion Btu, and produced annual cost savings of $225,000. This facility is an outstanding example of an energy team in action by implementing projects, reducing government costs, and maintaining quality service in its core mission. VA Puget Sound was also one of 18 VA facilities that received the ENERGY STAR® label in 2003.

GSA Region 7 awarded $1.25 million in energy projects in FY 2002, earning the Centre Phase 5 Building location a score of 98. Improvements included retrofits of fluorescent lighting with specular reflectors, T-8 lamps, and electronic ballasts; other lighting replacements and

conversions; installation of occupancy sensors, direct digital controls for variable air volume boxes, energy monitoring and control systems, and variable speed drives; and chiller and chiller plant upgrades. These projects are generating savings of almost 8 billion Btu and more than $180,000 annually.

Laboratory facilities use far more energy and water per square foot than the typical office building due to intensive ventilation requirements and other health and safety concerns. To address this unique challenge, **EPA** and **DOE** co-sponsor the Laboratories for the 21st Century program, a voluntary program dedicated to improving the environmental performance of U.S. laboratories. The program assists partners to better plan, budget, design, and engineer their laboratories and is also developing guidelines and a variety of technical tools, offering workshops, sponsoring annual conferences on the design and engineering of high performance laboratories, clean-rooms, and data centers.

DOI's Chincoteague National Wildlife Refuge, in Virginia, is fully embracing the principles of sustainable design at the Herbert H. Bateman Educational and Administrative Center. The Center's design included construction on an existing site to minimize tree removal and other site disturbance, creation of wetlands for wastewater treatment, use of green products, and energy efficient techniques. Energy conserving features at the Center include a well-insulated building envelope; extensive use of natural day lighting; solar power; energy efficient electric lighting; natural ventilation; and a geothermal heating and air conditioning system for low life-cycle cost. The restrooms are equipped with "water-less" urinals, which saves more than 100,000 gallons of water each year.

Distributed Energy and Load Management. In an effort to reduce strains on the electrical grid and also improve efficiency, Federal agencies are making progress in their use of distributed energy resources (DER), combined heat and power (CHP), and renewable energy. According to a FEMP market assessment, as much as 1.5 gigawatts could be generated by combined heat and power systems at Federal facilities. These projects could save the government approximately $170 million annually in energy costs.

To date, 70 Federal sites have participated in CHP screenings offered by FEMP. A number of Federal agencies, including the DOD, DOE, DOT, DOI, VA, EPA, and many others, are already making use of DER and CHP technologies, including internal combustion engines, fuel cells, microturbines, and photovoltaics. In addition, agencies are using their purchasing power to install on-site renewable energy projects as well as buy renewable power for their facilities.

TRANSPORTATION AND FLEET MANAGEMENT

Major Goals under E.O. 13149, E.O. 13150, and EPACT

- ✓ *Reduce annual Federal fleet petroleum consumption by 20 percent by 2005, compared to 1999 consumption level.*
- ✓ *Continue to acquire alternative fuel vehicles as required by EPACT and use alternative fuel in AFVs the majority of the time by 2005.*
- ✓ *Increase the fuel economy of non-AFV acquisitions at least 1 mile per gallon by 2002 and 3 miles per gallon by 2005.*
- ✓ *Implement mass transportation fringe benefit programs to help reduce traffic congestion and air pollution.*

The Energy Policy Act of 1992 (EPAct) sets forth the statutory requirements for the acquisition of alternative fuel vehicles (AFVs) by Federal agencies. In fiscal year (FY) 1999 and beyond, 75 percent of light-duty vehicle acquisitions in covered fleets are to be AFVs. Executive Order 13149, "*Greening the Government Through Federal Fleet and Transportation Efficiency,*" directs Federal agencies to fulfill the intent of EPAct to reduce reliance on petroleum products. Through a combination of AFV acquisitions, increased alternative fuel use in AFVs, improved efficiency of non-AFV acquisitions, reductions in fleet sizes and vehicle miles traveled, and improvements in overall fleet operating efficiencies, agencies are required to decrease the annual petroleum consumption of Federal fleets by 20 percent by 2005, compared to 1999 consumption.

POLICIES

EPAct requirements apply to agency fleets of 20 or more light-duty vehicles (under 8,500 pounds) that are centrally fueled or capable of being centrally fueled and are primarily operated in Metropolitan Statistical Areas (MSAs) or Consolidated Metropolitan Statistical Areas (CMSAs) with populations of 250,000 or more according to 1980 census data. Vehicles that do not meet these requirements are considered geographically exempt from the EPAct requirements. E.O. 13149 applies to all Federal agencies with a fleet of 20 or more vehicles nationwide. Both EPAct and the Executive Order provide exemptions for law enforcement, emergency, and military tactical vehicles.

The *Federal Employees Clean Air Incentives Act*, enacted in 1993 (Public Law 103-172), was designed to improve air quality and reduce traffic congestion by having Federal agencies encourage their employees to commute by means other than single-occupancy vehicles. The legislation permits the head of each agency to establish programs to promote initiatives such as use of transit passes; furnishing space, facilities or services to bicyclists; and providing non-monetary incentives such as alternative work schedules, flextime, telework, flexiplace, and related parking and shuttle arrangements. The *Transportation Equity Act for the 21st Century* (TEA-21), enacted in 1998 (Public Law 105-178), authorized highway, highway safety, transit and other surface transportation programs through 2004. TEA-21 reaffirmed the importance of mass transit to improve air quality and reduce traffic congestion.

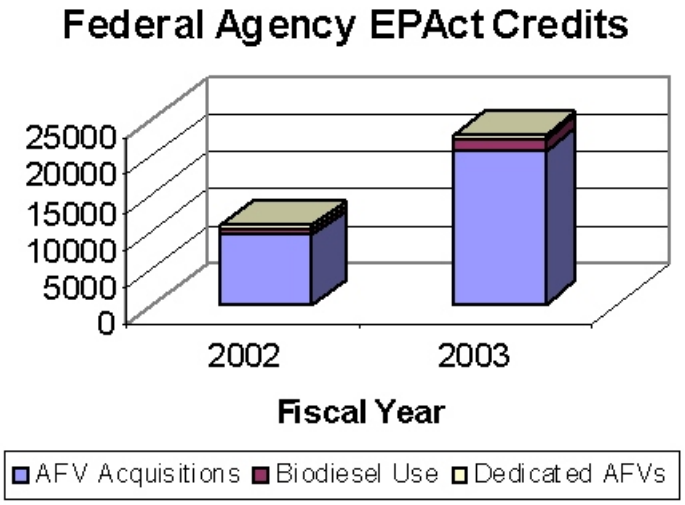
The objective of Executive Order 13150, *Federal Workforce Transportation*, is to help reduce Federal employees' contribution to traffic congestion and air pollution and to expand their commuting alternatives. Federal agencies are required to implement mass transportation fringe benefit programs under this Order.

ACCOMPLISHMENTS

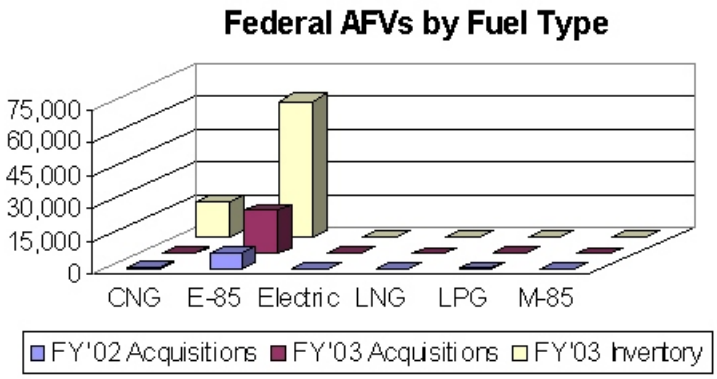
Federal Fleet and Transportation Efficiency. Federal agencies report conventional and AFV acquisitions and inventory, alternative fuel consumption in AFVs, petroleum consumption, and vehicle operations data annually through the Federal Automotive Statistical Tool (FAST), an on-line reporting system (http://fastweb.inel.gov). Compared with FY 1999 baseline levels, covered petroleum consumption in Federal agencies decreased only slightly in FY 2002 (about 1.5 percent) and FY 2003 (less than 0.1 percent). Although most agencies have implemented measures to reduce petroleum consumption, including acquiring AFVs, using alternative fuels, and increasing the fuel economy of non-AFV, light-duty vehicle acquisitions, these efforts resulted in only minor reductions in petroleum fuel consumption due to expanded agency mission requirements, a shift in acquisition from light-duty to medium-duty vehicles, and insufficient usage of alternative fuels in AFVs. Seven agencies did not reduce petroleum consumption in either FY 2002 or FY 2003.

EPAct requires that 75 percent of vehicle acquisitions each year in covered fleets be AFVs. E.O. 13149 reaffirms agency compliance with EPAct. In FY 2003, AFV acquisitions across the Federal fleet accounted for 86 percent of covered light-duty vehicle acquisitions, which represents 115 percent compliance with the 75 percent AFV acquisition requirement of EPAct. Thirteen of the 18 covered agencies met or exceeded the 75 percent requirement in FY 2003. This compares with FY 2002 in which the Federal fleet fell short of EPAct compliance with a 60 percent AFV acquisition rate, when only 11 of the 18 covered agencies met EPAct.

Federal agency annual compliance with EPAct is assessed based on the number of AFV credits earned compared with the number of covered vehicle acquisitions. Agencies earn one AFV acquisition credit towards compliance for each AFV acquisition, regardless of geographic placement or exemption status. Additional AFV credits are allocated for vehicles of any size that operate only on alternative fuel (i.e., "dedicated" vehicles as compared to vehicles that are flex- or bi-fuel), as well as for using biodiesel fuel (typically as B20, a blend of 20 percent biodiesel with 80 percent petroleum diesel).



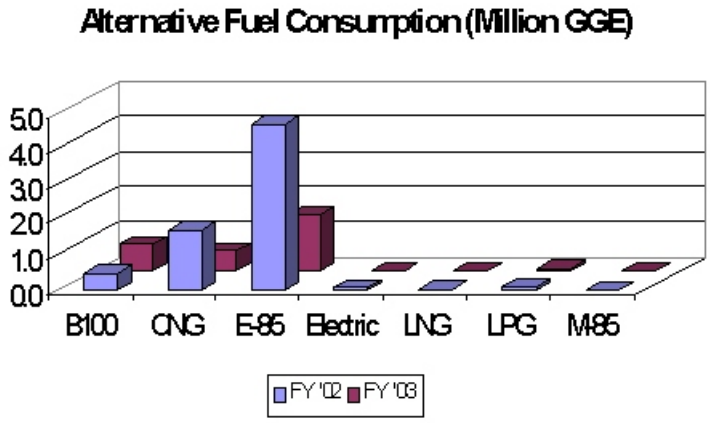
In FY 2003, EPAct-covered fleets generated more than 22,882 credits. Of these total credits, 91 percent were due to AFV acquisitions, seven percent due to biodiesel use, and two percent due to dedicated AFVs. This compares with a total of 10,870 EPAct credits generated in FY 2002, 86 percent of which were attributed to AFV acquisitions, nine percent for biodiesel use, and five percent for dedicated AFVs.



In FY 2003, Federal agencies (both EPAct-covered agencies and independent agencies not covered by EPAct) acquired a total of 20,914 AFVs compared with a total of 9,399 AFVs acquisitions in FY 2002. The majority of AFVs acquired were E85 (fuel mixture of 85 percent ethanol and 15 percent gasoline) vehicles. The total AFV inventory in the Federal fleet (including independent agencies) at the end of FY 2003 was 80,951.

The USPS has the largest AFV fleet in the Federal government, with 37,573 vehicles, accounting for about 46 percent of the 80,951 AFVs in the Federal fleet. The DOD fleets combined operate more than 26,969 AFVs, or about 33 percent of the total Federal fleet AFVs. The largest number of AFVs by type in the Federal fleet inventory is E85 vehicles (78 percent), followed by compressed natural gas (CNG) vehicles (21 percent). The remainder includes electric, liquefied natural gas (LNG), liquefied petroleum gas (LPG), and M85 (fuel mixture of 85 percent methanol and 15 percent gasoline) vehicles.

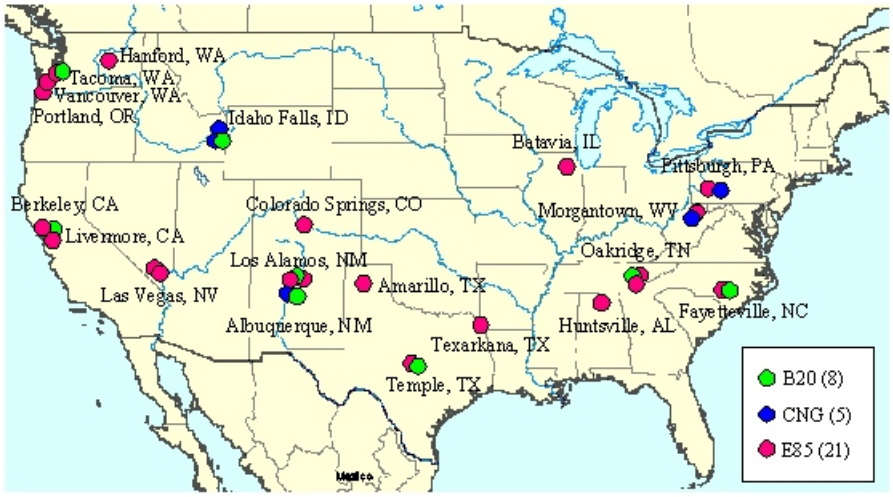
E.O. 13149 requires agencies to use alternative fuel in their AFVs a majority of the time by the end of FY 2005. This means that at least 51 percent of the fuel used in the operation of AFVs must be alternative fuel by that date. Several agencies reported using alternative fuels the majority of the time in FY 2002 and FY 2003, and other agencies demonstrated progress toward this goal. In FY 2003, 3.1 million gasoline gallon equivalents (GGE) of alternative fuels were reported consumed. Note that this total is lower than the nearly approximately 7 million GGE reported in FY 2002. This is due in part to a change in the method used by GSA to estimate the amount of alternative fuel used in AFVs.



Estimation is necessary due to continued difficulties in accurately tracking alternative fuel use, because alternative fuels have not been assigned unique product codes by industry. Without product codes, credit card companies cannot correctly identify and report the fuel type purchased by the cardholder. GSA has been actively pursuing a resolution to this issue with industry. Regardless, most agencies will have to make a significant effort in expanding alternative fuel use to meet the FY 2005 requirement. The most commonly used alternative fuel in the Federal fleet in FY 2003 was E85 (51 percent), followed by biodiesel (25 percent), and CNG (19 percent). This contrasts with FY 2002 in which E85 (66 percent), CNG (24 percent), and biodiesel (seven percent) were the top three alternative fuels consumed.

To support expanded use of alternative fuels, DOE and the U.S. Army have funded 34 alternative fuel infrastructure projects at 29 DOE and Army facilities throughout the nation.

Alternative Fuel Infrastructure
Projects Currently Under Development

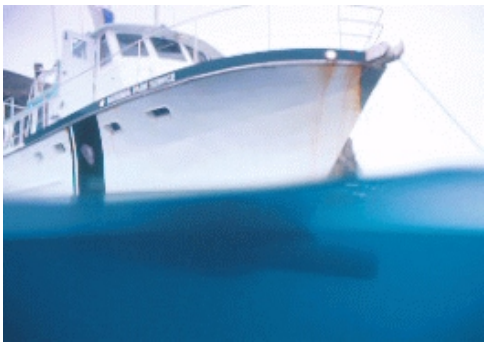


The projects involve the construction of AFV fueling infrastructure such as fueling stations and storage tanks. The alternative fuel infrastructure projects include 21 E85, 8 CNG, and 4 biodiesel projects. Several other agencies, including the U.S. Air Force and NASA, have similar plans to install even more alternative fuel infrastructure sites at other locations.

E.O. 13149 also requires agencies to increase the miles-per-gallon (mpg) rating of light-duty vehicle (LDV) acquisitions by 1 mpg by FY 2002 and 3 mpg by FY 2005. This increase is measured relative to the average fuel economy of the agencies' light-duty, non-AFV acquisitions in FY 1999. Fifteen agencies met or exceeded the interim goal of 1 mpg average fuel economy increase for covered vehicles in FY 2002, while two agencies reported no change to their baseline fuel economy. In FY 2003, all but five agencies showed progress towards the 3 mpg fuel economy improvement due in FY 2005.

Several agencies and individual fleets have demonstrated a strong commitment to acquiring and using alternative fuel vehicles and reducing petroleum consumption. The following are highlights from some of these Federal fleet success stories.

DOD fleets combined represent the second-largest fleet in the Federal government. Each military service operates its fleet separately. On the whole, DOD exceeded the overall EPAct goal of 75 percent of covered acquisitions, achieving a 99 percent rate. In other words, DOD exceeded the goal by approximately 24 percent. In terms of AFV acquisitions alone, DOD exceeded the goal by 1,281 vehicles. DOD's current inventory includes 26,969 AFVs. The Army has the largest AFV inventory within DOD at 12,365. The Marine Corps is the only organization covered by E.O. 13149 that has already reached the 20 percent petroleum reduction goal, achieving a 27.1 percent reduction in FY 2003 relative to the FY 1999 baseline.



The National Park Service (NPS) has been active in many projects related to alternative fuels and petroleum reduction. The **Channel Islands National Park** has drastically reduced diesel fuel consumption for electricity production through the use of wind and solar power. Biodiesel is used for power generation, boats and vehicles at the park. Fifty-four percent of the park's mainland vehicle fleet are AFVs (electric, CNG, and E85). Plans for the park include the conversion of all diesel equipment to B100 or B20, with the ultimate goal of being petroleum-free.

Since the 1992 enactment of EPAct, the **USPS** has led the Federal government in the acquisition of AFVs. The USPS was successful in exceeding the EPAct AFV acquisition requirements in FY 2003, as has met or exceeded EPAct requirements in fiscal years 1998-2002. The USPS has achieved this by ensuring all delivery (mail hauling) vehicle purchases are AFVs, where these are available from the manufacturers. For example, the USPS acquired 6,240 flexible fuel vehicles capable of operating on E85 in FY 2003. The USPS also continues to increase its use of the biodiesel blend B20. It used 1,115,968 GGE in FY 2003, an increase of 48 percent over FY 2002 levels.

Federal Workforce Transportation. GSA compiles information on Federal workforce transportation and is responsible for facilitating the establishment of program guidance, providing technical advice to agencies, and reporting on these matters to the President and the Congress.

GSA's FY 2002 report includes 60 agencies, compared to 55 agencies that participated in various incentives to reduce traffic congestion and air pollution in FY 2000 - 01. These agencies have almost 733,000 Federal employees commuting by means other than single-occupancy vehicles. A total of $261 million was invested during FY 2002 in support of these programs, up from an average of $226 million per year in the 2000 - 01 reporting period.

Federal Telework Program. Telework (also called telecommuting) is the ability to do your work at a location other than your official duty station. In recent years, both Congress and the Executive branch have increasingly promoted telework to help achieve important public policy goals.

In 2003, agencies reported that a total of 751,844 Federal employees (43 percent) are eligible to telework, compared with the 625,313 employees (35 percent) reported in 2002. This represents an increase of 126,531 telework-eligible Federal employees - or an increase of more than 20 percent. In addition, the number of employees teleworking grew from 90,010 in 2002 to 102,921 in 2003. Most noteworthy is that from the first telework survey in April 2001, when 53,389 employees were teleworking until October 2003 with 102,921 reported Federal teleworkers, there has been an overall increase of 93 percent in the number of employees teleworking.

RECOMMENDATIONS

This section provides the latest status on the 18 recommendations made in the 2000-01 Report to the President that challenged the Federal sector to continue improving its environmental stewardship. This update discusses progress on each of the recommendations and identifies what further steps need to be taken in the following areas: Building Partnerships and Enhancing Education, Improving Accountability, Budgeting for Sustainability, Building Sustainable Infrastructure and Continuing Leadership. Where applicable, additional recommendations are made to continue enhancing these key areas.

From the information and data evaluated to date for this report, there are several important observations:

- Basic stewardship elements – environmental management systems, life cycle assessment and costing, and sustainable practices – are elemental to all this work.
- Training, awareness, and recognition of relationship to mission are critical to compliance.
- Cooperation and interagency and intra-agency communication are also critical to successful environmental stewardship.
- Sustained and visible senior management focus and leadership are necessary for the success of these efforts.
- Learning from and leveraging strategic partnerships and alliances, as well as sharing case studies and lessons learned with the non-Federal community, allows Federal facilities and organizations to do more with less and expand stewardship beyond the Federal sector.

RECOMMENDATION FROM THE 2000-2001 REPORT	LEAD	ONGOING EFFORTS	PROPOSED ACTIONS
BUILDING PARTNERSHIPS AND ENHANCING EDUCATION			
BP-1. Agencies should consider the range of energy and environmental factors when making an acquisition. "Green" or "sustainable" purchasing should be broadly defined to encompass the wide variety of sustainable products, including recycled content products, ENERGY STAR® and other energy- and water-efficient products, environmentally preferable products and services, biobased products, and alternative fuels and vehicles.	EOIAG	The EO 13101 Interagency Advisory Group (EOIAG) is working on a range of mechanisms for incorporating green purchasing routinely into the facility or organization activities. To further improve outreach to the procurement community, EPA has developed a module that a facility or organization can use to integrate green purchasing into its environmental management system so that green purchasing becomes part of ongoing activities.	
BP-2. DOE and EPA should prepare, through an inter-agency workgroup, consisting at a minimum of OFEE, DOD, GSA, and USDA, a government-wide, comprehensive green purchasing education and outreach plan. The plan should cover the requirements of the Greening the Government Executive Orders and consider the use of e-training courses, the dissemination of case studies, and the identification of key acquisition-related conferences and other educational information.	DOE, EPA	OFEE and the OPM have developed e-training for green purchasing. OFEE and the U.S. Army developed and presented train-the-trainer programs. The Defense Acquisition University added green purchasing to several courses. Several agencies formed a Federal Work Group on Green Products and Sustainability to improve coordination. DOE provided "train the trainer" courses in Denver, Sacramento, Minneapolis, and Washington, DC in 2004. Drivers learned of the benefits of the various alternative fuels, as well as each fuel's characteristics and properties. Safety practices, emergency action plans, vehicle technologies, and fueling procedures were also discussed.	DOE is in the early stages of developing an online AFV driver training module certification course.

RECOMMENDATION FROM THE 2000-2001 REPORT	LEAD	ONGOING EFFORTS	PROPOSED ACTIONS
BP-3. Agencies should explore the feasibility of adopting the model of the Federal Network for Sustainability (FNS) in other geographic regions. FNS is an alliance of Federal agencies who share staff, authorities, and experience to collectively reduce waste, pollution, energy consumption, and implement other green practices.	OFEE	Federal agencies from the eastern part of the US have met to discuss this opportunity. Also, the agencies in the central portion of the country have expressed interest, and are exploring the idea. In addition, there are many other networks that are made up of Federal entities, or have Federal participation. Rather than being regional, these other networks are based on sectors or are topical. For example, the Interagency Sustainability Work Group in a national group of Federal entities that are focused on sustainable design concepts. Another is the United States Partnership for the Decade on Education of Sustainable Development.	OFEE is working with agencies to inventory and better link and support these networks to maximize information sharing and leveraging experiences.
BP-4. Agencies and facilities should inform states, local communities, tribes, and private sector entities about their agency/facility environmental management systems (EMS) actions, and as appropriate, work with them in partnership on EMS training, development, and implementation	Each Agency	Several Federal regional offices and facilities have been working with their neighbors on EMS training and development. Several agencies, the Environmental Council of the States and the Multi-State Working Group have formed a partnership to better coordinate Federal-state EMS work. This partnership is intended to help both the Federal facilities and their local communities and state governments work together on maximizing the value of EMS development and use. In addition, the Defense Supply Center (Defense Logistics Agency) in Richmond, Virginia is pioneering the Virginia Regional EMS (VREMS). VREMS is a collaborative effort between DLA, VADEQ, and the surrounding communities to work together by networking their environmental management systems to maximize effort and enhance environmental performance outcomes.	
BP-5. EPA, DOE, and major procuring agencies should convene a green products trade fair for vendors and procurement officials in order to promote Federal purchasing of recycled content products, ENERGY STAR® and other energy- and water-efficient products, environmentally preferable products and services, biobased products, and alternative fuels and vehicles. The trade fair should highlight small, minority, and women-owned sources of these products and services, as well as products and services available through the National Industries for the Blind and the National Industries for the Severely Handicapped.	EPA, DOE	The Executive Order 13101 Interagency Advisory Group determined that a trade fair would not meet their agencies' information and outreach needs. The Federal Green Purchasing Initiative subgroup is considering how to develop coordinated education and outreach tools reflective of all components of the Federal green purchasing program.	
IMPROVING ACCOUNTABILITY			
IA-1. The head of each agency should ensure full compliance with statutory and Executive Order requirements addressed in this report by establishing goals for meeting each requirement, developing affirmative procurement and/or action plans, and tracking and measuring progress.	Each Agency	With regard to EO 13148, OFEE and the Interagency Environmental Leadership Workgroup are leading a comprehensive effort for the President's Management Council to assess agencies' compliance assurance mechanisms. The team has developed draft recommendations to improve compliance performance and support the use of EMS to improve compliance with regulations, Executive Orders and other requirements.	OFEE, EPA, and others continue to develop templates and modules outlining the relationship between EMS elements and environmental requirements (e.g., electronics recycling, green purchasing, NEPA compliance, and regulatory compliance). These tools clearly illustrate how the requirements can be integrated into a agency, organizational or facility EMS.

RECOMMENDATION FROM THE 2000-2001 REPORT	LEAD	ONGOING EFFORTS	PROPOSED ACTIONS
BS-1. OMB should ensure that agency requests for appropriations for new construction and major modernization projects take into account life-cycle costs, including long-term energy, environmental, and operational costs.	OMB	Although OMB Circular A-11, the official Federal budget preparation guidance document, requires consideration of LCC, LCCA, O&M and cradle to grave costs, such considerations currently occur on a case-by-case basis, with variations in approaches and variables.	OMB and agency budget staff to procure training, resources, and tools to improve awareness.
BS-2. Agency chief financial officers should ensure that their annual budget submissions to OMB allocate funds for implementing the energy and environmental Executive Orders.	OMB	In 2002, OMB Circular A-11 was modified to streamline and improve requirements for agency reporting on energy and transportation efficiency.	OMB will continue to work with agencies to improve their timely reporting, accuracy, and use of the data to inform budget decisions. Increased use of EMS and improved awareness by agencies will also help further promote this practice.
BUILDING SUSTAINABLE INFRASTRUCTURE			
To improve the use of alternative fuels and to increase compliance with EPAct and E.O. 13149, agencies should do the following: **SI-1. GSA Fleet Management Centers and agencies should work with area agency fleet managers to encourage local fuel providers to establish alternative fueling sites and negotiate better alternative fuel prices.**	GSA	The Defense Energy Supply Center (DESC) contracts for biodiesel fuel across the Department of Defense (DOD) and the Federal agencies. This has resulted in increased usage, uniform fuel quality, and decrease in fuel price for the fleets. DESC also contracts for ethanol but only for the DOD. We recommend that they expand this activity to all agencies because of the success seen with biodiesel. DOE has initiated an alternative fuel infrastructure partnering and coordination project beginning with the Denver metropolitan area. The objective is to expand alternative fuel availability and use. DOE plans to replicate this model in other metropolitan areas.	GSA has met with the service station providers to discuss problems with data tracking. GSA has proposed a bulletin (being reviewed) that would direct all operators within 5 miles or 15 minutes of an alternate fuel station to utilize that station.
SI-2. Agencies' senior transportation officials should establish policies to require drivers to operate alternative fuel vehicles on alternative fuel, to the maximum extend practicable, in areas where alternative fuel infrastructure exists.	Each Agency	Agencies now have developed their strategies for meeting this recommendation. DOE will offer train-the-trainer training to agencies, particularly for how to operate fueling of CNG vehicles. DOE is funding the building of 23 fueling stations at 12 of its sites that others also can use. Several other agencies have funded alternative fueling stations including the U.S. Air Force, Army, and NASA.	In early 2004, DOE issued a Secretarial directive to require DOE fleets to expand alternative fuel use in its AFVs to more than 80 percent of the time to ensure compliance with Executive Order 13149.
SI-3. Agencies' senior transportation officials should work with DOE and GSA to resolve alternative fuel use tracking issues with fuel providers.	GSA	GSA met with Visa and the National Association of Convenience Stores on ways to improve tracking. GSA has developed an Alternate Fuel Educational Brochure to educate retail stores about the importance of using the correct fuel code when storing and selling alternative fuels.	
SI-4. To build on current Federal sustainable building practices, OMB should issue guidance that would require that all new Federal buildings and total renovations of existing buildings strive for a minimum rating of Silver in the Leadership in Energy and Environmental Design (LEED) or similar sustainable building rating system where life-cycle cost-effective.	OMB	OMB Circular A-11 encourages agencies to incorporate LEED, ENERGY STAR®, or other sustainable design concepts, into up-front design concepts for new construction and building renovations. The Interagency Council on Standards Policy met with the US Green Building Council to address government-wide use of LEED and consistency with the National Technology Transfer and Advancement Act. OFEE, with support from the Interagency Sustainability Working Group, prepared a sustainable design and construction report in the fall of 2003. This report, "The Federal Commitment to Green Building: Experiences & Expectations," outlines Federal building environmental performance objectives, assesses which sustainable building policies and practices the Federal	OFEE is working with the National Institute of Standards and Technology (NIST) Council on issues raised by various manufacturers and trade associations about LEED, such as the consensus nature of the standard, and how points are assigned. OFEE and NIST are committed to working with agencies and USGBC to ensure LEED is as fair as possible to the entire marketplace.

RECOMMENDATION FROM THE 2000-2001 REPORT	AGENCY LEAD	ONGOING EFFORTS	PROPOSED ACTIONS
		government is following, and recommends further actions to progress towards these objectives. OFEE also formed the Federal Green Buildings Council in December 2003, to help guide agencies with these actions. The Council, in partnership with the Interagency Sustainability Working Group, now helps Federal agencies strategize to make the business case for green building, to establish appropriate metrics, to improve information-sharing mechanisms so that agencies can learn from others' successes, and to further research and development efforts. The Council also helps to manage individual agency green building actions and determine the need for government-wide sustainable policy.	
SI-5. To enhance and coordinate green purchasing, OFEE and OMB should work with agencies to ensure that energy and environmental considerations are incorporated into contracting forecasts, service contracts, e-catalogs, and source selection factors, including past performance factors. OFEE and OMB also should encourage agencies to incorporate green purchasing into their environmental management systems.	OFEE, OMB	Many agencies and organizations provide training on one or more green-purchasing related topic. OFPP and OFEE review the accuracy and efficacy of training and encourage agencies to incorporate energy and environmental considerations into contracting actions. Once the green purchasing guidance is completed, OFEE will encourage agencies to use it to incorporate green purchasing into their facilities' EMS.	
SI-6. To promote sustainable practices, OFEE and DOE should coordinate their awards programs to reward Federal agency progress for exemplary sustainable operations in waste prevention, recycling, affirmative procurement of the range of green products and services, energy efficiency, the use of environmental management systems, designing and constructing sustainable buildings, alternative fuel usage, and electronics stewardship.	OFEE, DOE	OFEE, OMB, DOE, EPA and Interior met and developed a proposal to consolidate and improve the awards. In 2004, the first ever combined Presidential Energy and Environmental Awards, honoring winners of the Presidential Awards for Leadership in Federal Energy Management and the White House Closing the Circle Awards, was celebrated with great success.	
CONTINUING LEADERSHIP			
CL-1. Federal agencies should continue to demonstrate leadership in sustainability through participation in such challenge programs as EPA's recently announced Resource Conservation Challenge, WasteWise, Waste Minimization, National Environmental Performance Track, and other related programs and partnerships.	Each Agency	OFEE and EPA catalogued for the first time Federal agencies' participation in EPA's voluntary partnership programs. Several agencies have increased their participation in such Federal and State programs.	EPA is working to improve its voluntary programs portfolio, which may open opportunities. OFEE is also promoting Federal community participation in voluntary programs.
CL-2. OFEE should work with EPA, other agencies, and leading electronics businesses to pursue a National Electronics Stewardship Challenge, inviting Federal agencies to commit to using their acquisitions to leverage the development of an integrated, closed-loop approach to the design, manufacture, de-manufacture, reuse, and recycling of electronic equipment.	OFEE, EPA	In May 2003, OFEE and EPA kicked off the Federal Electronics Challenge's pilot phase, and agencies are being encouraged to participate. The full program is anticipated to start in October 2004. In January 2003, EPA also launched the Plug-In to eCycling initiative to increase reuse/recycling of electronics. EPA has drafted environmentally sound management guidelines for the program. Federal agencies are participating with many others.	
CL-3. GSA should continue to expand the Federal workforce transportation initiatives, including parking limitations, to further improve air quality and reduce traffic congestion, and better quantify the environmental benefits of this program.	GSA	From 2001 to 2002, the number of Federal employees teleworking grew 21 percent. While this increase is notable, it still does not total the preferred percentage of the entire work force that is teleworking. However, GSA and other agencies are constantly and aggressively striving to meet the goal. OPM developed a telework handbook for managers and supervisors and is developing a comprehensive electronic training program for release in late 2003. OPM and GSA have developed a website, www.telework.gov, to provide one-stop access to Federal telework program information.	

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