

strategic energy management plan

General Services Administration
Region 10, Northwest/Arctic Region
Auburn, Washington





the mission of the General Services

Administration is to help federal agencies better serve the public by offering, at best value, superior workplaces and expert solutions, acquisition services, and management policies.

our vision as staff of GSA's Northwest/Arctic

Region is to serve as strategic real estate advisors who provide superior, sustainable workspace solutions that exceed customer expectations, enhance worker productivity, and reflect our understanding of client needs while providing environmental leadership within the communities we serve.

our core values are "SAIL ON" which stands for

Support, **A**ccountability, **I**ntegrity, **L**oyalty and trust, **O**wnership/commitment, and **N**urture a fun workplace.

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Credit: GSA

Planners incorporated sustainable features in the Border Crossing Station in Oroville, Washington

About the cover: Photo of Mendenhall Glacier across Gastineau Channel near Juneau, Alaska (Susan Sczepanski, National Renewable Energy Laboratory, PIX 13447)

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Planners incorporated sustainable features in the Border Crossing Station in Oroville, Washington

About the cover: Photo of Mendenhall Glacier across Gastineau Channel near Juneau, Alaska (Susan Sczepanski, National Renewable Energy Laboratory, PIX 13447)



We are in the business of providing workplace solutions to thousands of federal employees. Because of the large volume of our business, we have the ability to influence markets with our informed decisions regarding the use of energy-efficient practices, sustainable design, renewable power purchases, and other sustainability practices.

To meet the objectives of our *Strategic Energy Management Plan*, we must consistently integrate the guidance in our plan with our daily operations. In our purchasing decisions, we must consider energy efficiency, renewable energy, recycled products, and other sustainable options. We will give attention to Leadership in Energy and Environmental Design (LEED), sustainability, building commissioning, and other energy and resource conserving practices. These are piers in the foundation of energy efficient building design and operation.

It is true that federal Executive Orders and the Energy Policy Act mandate the goals you will find contained in this plan. However, it is up to each of us to work to achieve these goals. Every associate in our workforce makes business and personal decisions throughout the day that can advance sustainable principles. I ask that each of you make a personal commitment to carry out our plan.

Sincerely,

Robin G. Graf
Assistant Regional Administrator



The Federal Supply Service will actively support the Strategic Energy Management Plan through our Multiple Award Schedules program. Our schedules provide, at best value, a source for virtually every commercial product or service you may need. The Energy Services Schedule 871 II and Environmental Services Schedule 899 can deliver a variety of comprehensive solutions that could assist with the implementation of this plan. These schedules provide access to contractors for energy audits, resource efficiency management, use of alternative and renewable energy sources, building commissioning, recycling and disposal, remediation and more. We stand behind our commitment to provide what you need.

Our GSA Fleet provides quality Alternative Fuel Vehicles (AFVs) to assist Customer Agencies in meeting The Energy Policy Act (EPACT) of 1992 and Executive Order 13149 which mandates federal agencies to acquire Alternative Fuel Vehicles (AFVs) and to reduce fuel consumption. GSA Fleet also actively promotes and educates on the merits of the alternative fuels vehicle program through sponsoring local seminars and focus groups. GSA partners with State and local Governments as well as private industry in promoting the use of Alternative Fuels through the Clean Cities Coalitions.

GARY G. CASTEEL
Assistant Regional Administrator
Federal Supply Service
Federal Technology Service

introduction

our *strategic energy management plan* (SEMP) will help us to fulfill both the General Services Administration (GSA) mission and our regional vision of better serving the public by exceeding expectations. It will allow us to reach beyond the government mandates and become environmental leaders in our communities of the beautiful Northwest and Arctic regions of the United States. We developed this SEMP specifically for GSA Region 10 to create a custom roadmap for making smart financial and thoughtful environmental decisions about sustainable and energy-saving practices at our facilities in Alaska, Idaho, Oregon, and Washington.



Mendenhall Glacier, near Juneau, Alaska

PIX 13447
Credit: Susan Szczepanski

This plan is a work in progress. We will review it every two to three years to refine it as a valuable tool that will help us implement sustainable energy management practices. Your input is welcome and needed to further craft our SEMP, so it helps each of us contribute to a sustainable future.

Using the SEMP

The SEMP is both a guide and workbook. It describes how we intend to implement our plan and how it will be improved. Whether facilities are leased or owned, new or old, this plan will help operations managers, design teams, and others accomplish energy goals and balance costs.

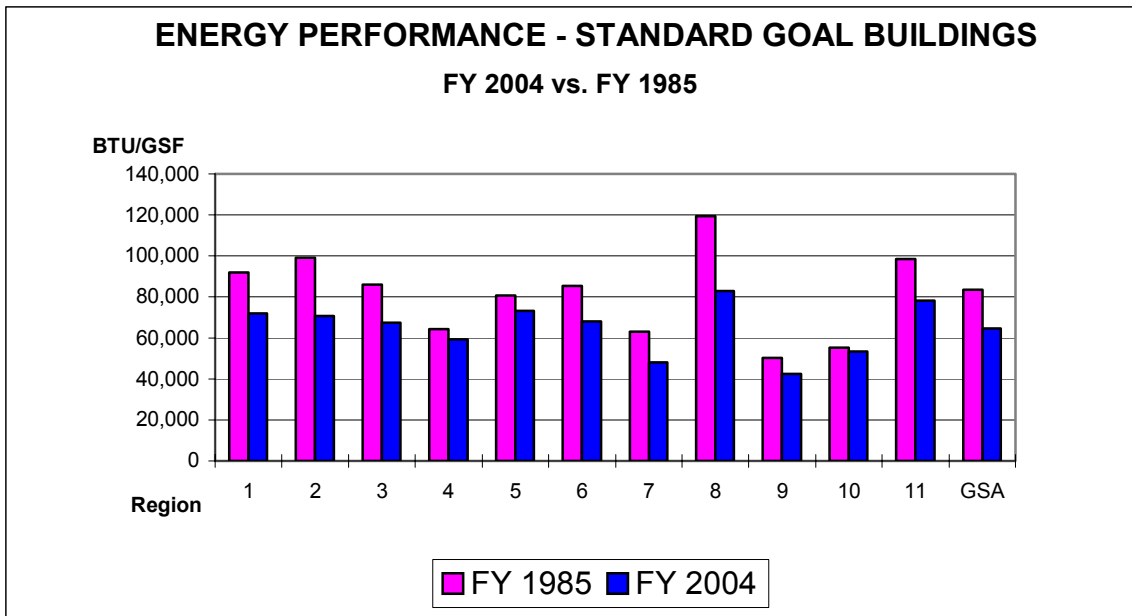
The SEMP provides the strategies, best practices, and tools we can use to meet the objectives outlined in this section. It also contains resources, strategies, and a variety of information on energy management practices and policies.

Objectives in the Northwest/Arctic Region	
Objectives	To achieve our objectives we will . . .
Improve asset value and reduce operating costs	Maintain a portfolio of efficient, sustainable workspaces with comfort conditions that enhance productivity, meet customer needs, and achieve financial objectives.
Ensure focus on sustainability in facility design, renovation, and construction	Enhance, support, and guide regional processes to ensure that new and renovated facilities are designed, constructed, commissioned, and operated with energy and water sustainability in mind.
Install renewable systems and procure renewable source energy	Seek to influence the movement of government agencies toward renewable energy sources by installing renewable systems and procuring energy from renewable sources, as well as leveraging our buying power to obtain the best pricing available in the market.
Strengthen energy security	Install on-site generation for reliable and secure energy and power (life-cycle cost-effective when feasible); consistently implement demand reduction and energy conservation measures at our facilities.
Provide education	Educate and involve tenants, employees, and visitors in our energy conservation efforts through awareness campaigns and other communication so they can make informed choices that have positive environmental results.

Regional Goals
1. Provide best value for customer agencies and taxpayers by establishing strategic and tactical partnerships with customers, comparing costs with the private sector, and measuring customer satisfaction.
2. Achieve responsible asset management by diligently and fully implementing the “Family of Plans,” deriving maximum benefit from the Public Buildings Service (PBS) inventory, and implementing the National Portfolio Strategy.
3. Operate efficiently and effectively by applying results-oriented business measures, sharing best practices, evaluating the organization to ensure optimum support, managing operating costs, and improving project delivery for revenue start.
4. Ensure financial accountability by establishing financial targets and measures, maximizing funds from operations, and maintaining accurate financial data.
5. Maintain a world-class workforce and a world-class workplace by promoting associate engagement and development, succession planning, and a world-class workplace in conjunction with PBS’s national Human Capital Strategy.
6. Carry out social, environmental, and other responsibilities as a federal government agency by maintaining an active child care program, supporting the Good Neighbor Program, promoting “green” programs, conserving energy, and meeting Procurement Preference Program goals.

Progress toward Our Energy Goals

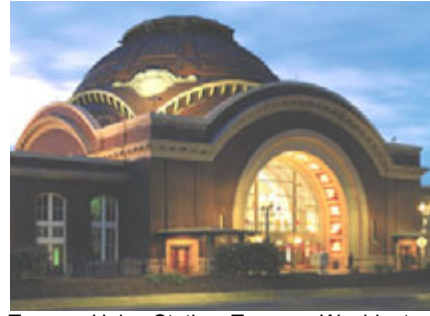
In the GSA Northwest/Arctic Region, we intend to continue our steady progress in reducing Btu-per-gross-square-foot energy consumption in our buildings. We are also working to meet our regional energy goals. The energy performance graph shows our progress as of September 2004. It compares Region 10's energy consumption progress with that of other GSA regions and with GSA as a whole. For these comparisons, FY1985 data are used for the baseline.



Facility Operations

GSA Northwest/Arctic Region facilities include a variety of federally owned and leased buildings. Our inventory consists of office buildings, courthouses, border stations, warehouses, laboratory space, and child care space.

We can meet our targets by focusing our customer operations, portfolio management, property management, and business services on environmental stewardship.



Tacoma Union Station, Tacoma, Washington

PIX 13444 Credit: GSA

To meet those targets we will:

- Identify and track energy consumption.
- Provide information to building tenants about the status of energy and sustainability projects.
- Demonstrate to customers the results of projects and efforts.
- Ask our tenants for feedback about the building environment to improve where necessary and to determine the effectiveness of our sustainable operating and custodial procedures.

Region 10 Annual Energy Consumption		
	Amount	Cost
Electricity	118,717,722 kWh	\$6,054,207
Natural Gas	10,234,774 CF	\$1,469,210
Fuel Oil	Not available this edition	Not available this edition
Steam	28,546 MLB	\$451,770
Geothermal	Not available this edition	Not available this edition

policy

national and agency policies and mandates provide the guidance and specific directives we need to follow while we pursue our energy and environmental goals and objectives. On a national level, legislative directives and executive orders provide mandates related to energy and the environment for federal agencies. And on an agency level, GSA has developed energy management policies and procedures that are relevant to its mission.

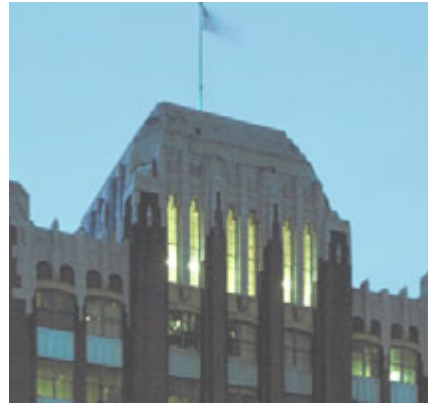
National Policy

The Energy Policy Act of 1992, along with its amendments to the National Energy Conservation Policy Act, forms the statutory basis of federal energy management activities. Subtitle F of the Act focuses on energy management at the federal agency level. This Act also authorizes federal agencies to use third-party project financing that is offered by utilities and energy service companies. (For more information about the Energy Policy Act, see the Federal Energy Management Program's (FEMP) Web site: www.eere.energy.gov/femp/about/legislation.cfm.)

Congress is considering a new National Energy Policy Act. If approved, this policy would create new requirements. In lieu of a new comprehensive policy, some aspects of the National Energy Policy Act may be enacted separately. We will track progress of the bills and incorporate any new requirements into an updated SEMP.

Executive Order 13123, Greening the Government Through Efficient Energy Management

E.O. 13123 (June 8, 1999) builds on work begun under the Energy Policy Act of 1992 and directs the federal government to take a leadership role in efficient energy management by significantly improving energy use to save taxpayer dollars, reduce dependence on foreign energy sources, and reduce emissions that contribute to air pollution. It directs agencies to conserve water and to use more cost-effective renewable energy technologies, which include solar, wind, geothermal, and biomass energy systems. This Executive Order is the basis for all federal agency mandates. (For more information on guidance for Executive Order 13123 see FEMP's Web site: www.eere.energy.gov/femp/about/legislation.cfm.)



Federal office building, Seattle, Washington

PIX 13443 Credit: GSA

Goals of Executive Order 13123		
Category	Goal	Comments
Greenhouse Gas Emissions	30% reduction by 2010	Base year is 1990. U.S. Department of Energy will calculate agencies' progress toward this goal and report it on agencies' annual energy scorecards.
Energy Efficiency		
Standard Buildings	30% improvement by 2005 35% improvement by 2010	Base year is 1985.
Industrial Facilities Laboratory Facilities	20% improvement by 2005 25% improvement by 2010	Base year is 1990.
Exempt Facilities	N/A	Despite the lack of quantitative goals, agencies should implement strategies to improve energy efficiency at these facilities.
Audits	Conduct audits for energy efficiency on 10% of facilities annually.	
Renewable Energy	Implement renewable energy projects. Purchase electricity from renewable energy sources. Install 2,000 solar energy systems at federal facilities by 2000. Install 20,000 solar energy systems at federal facilities by 2010.	Renewable Energy Certificates can be purchased via GSA Schedule 871 II. These certificates count toward the federal energy goal. Solar equipment can be purchased via e-buy, from Schedule 84. Installing federal solar energy systems will help support the Million Solar Roofs Initiative.
Petroleum	Reduce petroleum use.	Switches to alternative energy sources should be cost effective as determined by life-cycle cost analysis.
Source Energy	Reduce use of source energy.	Accomplish by undertaking projects that are cost effective as determined by life-cycle cost analysis.
Water Conservation	Reduce water consumption.	Accomplish with life-cycle cost-effective measures and financing mechanisms such as energy savings performance contracts. Agencies must implement water management plans and best management practices in their facilities and reduce water consumption according to the following schedule: 30% by 2006 50% by 2008 80% by 2010 Based on 2000 base year

Additional Requirements of Executive Order 13123

- Increase use of alternative financing arrangements.
- Purchase ENERGY STAR[®] equipment.
- Increase use of renewable power sources (on-site projects and green power purchases to equal 2.5% of requirements by 2005).
- Build and retrofit buildings to ENERGY STAR levels.
- Incorporate sustainable design principles in building projects.
- Submit an annual Energy Implementation Plan.
- Designate senior official and energy teams.
- Submit annual information and scorecard.

Executive Order 13101, Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition

E.O. 13101 (September 16, 1998) requires agencies to establish an Environmental Executive position; incorporate waste prevention and recycling in daily operations; and purchase and use environmentally preferable products and services, including recycled goods. (For more information, consult the following Web sites: FEMP Web site at www.eere.energy.gov/femp/technologies/sustainable_fedrequire.cfm and the Office of the Federal Environmental Executive Web site at www.ofee.gov/eo/eo.htm.)

Executive Order 13148, Greening the Government Through Leadership in Environmental Management

E.O. 13148 (April 21, 2000) requires the government to provide leadership to integrate environmental accountability into all operations; implement strategies to support environmental policies and procedures; comply with environmental regulations and emphasize pollution prevention; inform workers and the public of possible pollution sources; and develop environmental management systems. (For more information, visit the Office of the Federal Environmental Executive Web site at www.ofee.gov/sb/policies.html.)

Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

E.O. 13211 (May 18, 2001) requires agencies to prepare a Statement of Energy Effects when undertaking certain agency actions, including actions having significant adverse effects on energy supply, distribution, or use. These statements will provide useful energy-related information and hence improve the quality of agency decision-making.

Executive Order 13212, Actions to Expedite Energy-Related Projects

E.O. 13212 (May 18, 2001) calls for executive departments and agencies to expedite projects that increase the production, transmission, or conservation of energy.

Executive Order 13221, Energy-Efficient Standby Power Devices

E.O. 13221 (July 31, 2001) mandates the purchase of products that use minimal (less than 1 Watt) of power while in their standby power consuming mode. (For more information, see FEMP's Web site: <http://www.eere.energy.gov/femp/about/legislation.cfm>.)

Executive Order 13149, Greening of the Government Through Federal Fleet and Transportation Efficiency

E.O. 13149 (April 26, 2000) calls for the government to take a leadership role in reducing petroleum consumption by improving the fuel efficiency in federal fleets and using alternative fuel vehicles and alternative fuels. (For more information, visit the U.S. Environmental Protection Agency [EPA] Web site at www.epa.gov/fedsite/eo13149.htm.)

Executive Order 13150, Federal Workforce Transportation

E.O. 13150 (April 21, 2000) directs agencies to provide staff with alternatives to reduce work-related transportation and fuel use, such as flexible workplace arrangements, car-pooling, public transit reimbursement, and bicycle arrangements such as showering facilities. (For more information, visit the U.S. Department of Transportation Web site at www.fta.dot.gov/library/policy/cc/eo13150.htm.)



Alternative fuel vehicles help agencies reduce petroleum consumption

PIX 05055 Credit: Warren Gretz

GSA Policies

GSA policies provide guidance on achieving our energy management goals. GSA’s guidance includes facility standards, design information, best practices, and other supportive information and tools. Our regional goals fully embrace and comply with all GSA internal policy. In addition, they meet or exceed the federal legislation and executive orders regarding environment and energy.

For more information:

Facility Standards (PBS P100)
http://insite.gsa.gov/_pbs/pc/

GSA Sustainable Design
<http://insite.pbs.gsa.gov/PL/home.asp>

GSA’s Design Excellence Program
www.gsa.gov (click on Design Excellence Program)

GSA Web site
www.gsa.gov

GSA Real Property Web site
www.gsa.gov/realpropertypolicy

Real Property Management Sustainable Development Guide (hard copy)

Energy, Environmental, and Sustainable Design in Lease Acquisition

Real Property Leasing Activities

“We concentrate on re-refined oil, recycled anti-freeze, retread tires, and alternative fuel vehicles—LPG, CNG, biodiesel, ethanol, hybrid. We have incorporated recycled carpeting, recycled paint, solar power, and solar lighting into our Fleet Center and we remove mercury switches from disposal vehicles before we sell them.

*Lori Anderson
Puget Sound Fleet Manager*

approach

we are committed to reaching our energy management goals through the collaborative efforts of each GSA service (Public Buildings Service, Federal Supply Service, and Federal Technology Service), smart fiscal strategies, partnerships, and our personal commitments.

Partnerships form the foundation of the SEMP. We will combine our talents, knowledge, and services to provide comfortable, energy-efficient, and sustainable workspaces and products at the best value to our customers. We will also lead by our own example. Our actions will reflect our priorities of sustainable principles and smart fiscal strategies.



Wenatchee solar project team

The basic elements of our approach are:

- Program Administration
- Program Budget
- Program Performance and Evaluation
- Training and Education
- Coordination and Collaboration
- Employee and Tenant Awareness
- Awards and Recognition

Program Administration

Two primary groups will administer our SEMP: an advisory board and a regional energy management team. See Appendix A for membership.

Advisory Board

The advisory board will meet periodically to advise on the components of the SEMP and review our progress. This board will include representatives from the Federal Supply Service and the Federal Technology Service. A chair from the Public Buildings Service will oversee the board. The board may include a National Energy Center representative and a representative from another GSA region. It may also include representation from public and private regional landlords, contractors, and other federal agencies such as the U.S. Department of Energy (DOE).

Regional Energy Management Team

The regional energy management team (REMT) will be composed of representatives from the Public Buildings Service and led by the regional energy coordinator (REC). The REMT will use a cooperative approach to identify and pursue opportunities to achieve the intent of the SEMP. Team members will be invited to participate in project planning, budget planning, design charrettes, and other key meetings.

The management advocate will support the SEMP and enhance the effectiveness of the REMT. The REC will facilitate the implementation of the SEMP through coordination, communication, and guidance. The

role of the other team members will be to participate fully by contributing their expertise, current information, and commitment to meet the objectives of our SEMP.

Regular team meetings will be held to provide opportunities to communicate, define, and improve processes to meet our goals and allow feedback for improvement. Focus meetings will address specific issues or projects and identify resources and opportunities.

Roles and Responsibilities of REMT Members

Management Advocate. Encourages collaboration across divisions and represents the interests of the region, the SEMP, and the REMT during management resource planning discussions.

Technical Support Team Leader. Provides the connection between management and the REC, distributes and interprets energy policy, and provides guidance on priorities.

Regional Energy Coordinator. Is the PBS spokesperson and coordinator for the REMT, collaborates and shares lessons learned with the Energy Center of Excellence and other regions and agencies, coordinates and leads REMT meetings, carries out action items identified in the SEMP, and coordinates and implements the energy program.

Portfolio Management and Property Development

Representatives. Bring the perspective of the project managers, suggest procedural and policy changes essential to implementation of the SEMP, identify opportunities and projects, and share objectives and lessons learned.

Supervisory Asset Manager Representatives. Bring the perspective of the service centers, identify concerns and needs of the field, suggest essential procedural and policy changes to implement the SEMP, identify opportunities and projects, and collaborate and share lessons learned with other asset managers. Asset managers may lead efforts to encourage and educate staff and tenants in energy awareness and conservation.

Lead Electrical Engineer. Brings the perspective of the electrical design group to the REMT, identifies projects and opportunities, and transfers implementation strategies back to the design group.

Lead Mechanical Engineer. Brings the perspective of the mechanical design group to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the design group.

Facilities Services Support Branch Representative. Brings the perspective of the O&M staff to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the O&M staff.

REMT Roles



- Educate, motivate, and acknowledge success.
- Carry out the action items from the SEMP.
- Identify and implement projects.
- Check progress, set new goals, and move forward.

Project Architect/Designer. Brings the perspective of the architectural design group to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the design group.

Contracting Representative. Provides contracting expertise, brings the perspective of the contracting group to the REMT, suggests essential procedural and policy changes, identifies opportunities and projects, and transfers implementation strategies back to the contracting group.

See Appendix A for REMT membership.

Program Budget

With environmental leadership as our goal and smart fiscal planning as our objective, we will continue to prepare and request an inclusive annual energy budget to submit as a specific line item. This budget will include funds to accomplish the initiatives, goals, and objectives of our SEMP. In addition, we will focus on opportunities to use all current budgets to fulfill the objectives of this plan.

As a region, all project cost estimates will include the resources to design, implement, commission, and verify project savings. With input from Public Buildings Service staff, the REMT will develop a 5-year plan to achieve the objective of the SEMP. (See Appendix B for the Goals, Resources, and Implementation Schedule.)

Our budget submissions for all new and renovation construction projects will include costs for:

- Sustainable design and construction
- Life-cycle, cost-effective energy projects
- High efficiency replacement equipment purchases
- Energy efficiency-focused operations and maintenance (O&M) and continuous commissioning
- Renewable energy procurements and projects
- Environmentally preferable product purchases.

We will continue to use third-party financing when appropriate.

Project Budgeting

Funds for projects typically are allocated in the following budget accounts:

- New construction – BA51
- Major reconstruction/renovation – BA55
- Operations and maintenance (equipment replacement, minor projects) – BA61, BA63
- Repair and alteration – BA54.

Budget Process

Ongoing energy project identification and analysis are conducted. Funding is provided based on life-cycle cost (LCC) analysis. Projects should be submitted to the Energy Center of Expertise as soon as energy audits are completed.

Program Performance and Evaluation

The progression to leadership in energy efficiency and sustainability depends on effective program evaluation and honest performance feedback. The REMT will work each year with the advisory board to solicit input on additional goals for our SEMP, identify revisions and additions, and gauge our performance for the past year.

The intentions of performance evaluation are to:

- Track, monitor, and report on progress and activities of the SEMP.
- Request input from and provide feedback to service centers, project management, facility operations, and others.
- Provide information for the annual report to DOE and the Office of Management and Budget scorecard.
- Use our annual DOE reporting exercise as an opportunity to evaluate our performance.
- Use the GSA scorecard to identify opportunities to support goals and improve on performance.
- Invite input from and provide feedback to our clients and customers.
- Inform tenants of energy consumption history, progress toward goals, and impact of their actions.

See Appendix C for the Federal Agency Energy Scorecard.

Training and Education

Because adequate training is essential to meet our goals and objectives, we will strive to provide personnel with the training to carry out the goals of our SEMP. We have provided many training opportunities for staff to become knowledgeable in energy efficiency, efficient O&M, sustainable buildings, Leadership in Energy and Environmental Design (LEED), performance contracting, renewable energy projects, water conservation, and other areas that are pertinent to our SEMP. We will increase opportunities for education, on-the-job training, mentoring, presentations, and workshops.

We will strive to provide training opportunities that are cost effective. These include local training opportunities, hands-on education (such as photovoltaic [PV] installation), regional meetings that provide information and education for specific groups (annual Building Operator Conference), and on-site group training by educators from outside GSA.

In addition, we will continue to take advantage of the certification programs available to us, such as Certified Energy Manager, Operation and Maintenance Manager, and LEED accreditation.

See Appendix D for training information.

Our training goals will be supported by the following activities:

- The REMT will identify, recommend to staff, and take advantage of training opportunities.
- We will identify and encourage targeted training for the management team, project managers, asset managers, designers, O&M staff, and custodial staff.
- We will work with other agencies in the region to identify and sponsor or co-sponsor training sessions.

For more information:

Better Bricks (Northwest Energy Efficiency Alliance)
www.betterbricks.com/default.aspx

DOE Western Regional Office
<http://www.eere.energy.gov/sro/>

Energy Ideas Clearinghouse
www.energyideas.org

Federal Energy Management Program Training
<http://www.eere.energy.gov/femp/services/training>

U.S. Green Building Council
www.usgbc.org

Coordination and Collaboration with Others

Our internal and external partners are valuable resources for information sharing, collaboration, and technical assistance. We will continue to collaborate with these partners and look for additional opportunities to share resources and information and to achieve common objectives.

Internal Partnerships

Portfolio Development Division. Portfolio Development provides strategic vision and operational guidance that is responsive to our business partners throughout the region.

Portfolio Management Branch. See the FY 2005 business plan.

The Asset Management Team provides long-term asset strategies for development, end uses, and quality financial performance.

The Professional Services Team provides pre-project planning and project follow-through with regards to technical expertise in architecture, engineering, interior design, and life safety. Staff are also designated as Regional Authorities Having Jurisdiction in the areas of life safety, fire safety, environmental, and occupational safety and health.

Property Development Division. Property Development provides project management, acquisition services, and technical support for all areas of PBS.

Facilities Operations Support Branch. This branch will work with the service centers and supervisory asset managers to create energy-efficient, sustainable facilities. They will encourage tenants to participate in the development of energy awareness plans with the REMT and to make conscious choices to reduce the impact on the environment through everyday activities and procurement.

Business Service Division

Financial Services Branch. This branch provides easy and effective access to an array of energy services. These services range from auditing, technical review, and design to alternative financing

mechanisms. By collaborating, we can obtain a variety of support and assist our sister organization with continuous feedback to maintain the high quality of service offered in the schedule.

External Partnerships

Federal Agencies. Coordination with other federal agencies is another key aspect of realizing our goals. We have a thriving relationship with FEMP and the Western Regional Office. Through an Interagency Agreement (IAA) we can access the many services and resources FEMP offers to federal agencies. In addition, the DOE National Laboratories—including Lawrence Berkeley National Laboratory, the National Renewable Energy Laboratory, Oak Ridge National Laboratory, and Pacific Northwest National Laboratory—are available to provide reimbursable expertise. They offer SAVEnergy audits, surveys, technical and design assistance, alternative financing, and other support.

“Developed with assistance from the National Renewable Energy Laboratory and FEMP/Western, GSA Region 10’s SEMP is an example of collaboration on a shared vision.”

Arun Jhaveri
Regional Technology Manger
U.S. DOE/FEMP/Seattle

Bonneville Power Administration (BPA). The BPA continues to be a key partner. It provides technical and financial assistance for energy efficiency projects through an IAA.

Federal Executive Board (FEB). The FEB improves coordination among federal activities and programs outside the Washington, D.C., area. Members provide information about new and current sustainability and energy programs to the regional offices.

Federal Network for Sustainability (FNS). The FNS is composed of more than 13 federal agencies in the West and works to promote sustainable practices. The Northwest/Arctic Region has been a member of the FNS and is in the process of re-signing the Statement of Unity and assuming a more active role in the group.

Regional Councils. Councils such as the Puget Sound Real Property Council help us achieve our goals. Key presentations have been given to the groups to raise awareness of the requirements for energy efficiency and sustainability.

State Energy Offices, Local Governments, and Associations. These entities within our region often provide us with information and project case studies. Professional and technical societies, including the American Institute of Architects (AIA) and the Association of Energy Engineers, frequently provide workshops and other sessions that can help us in our educational efforts. In return, we can use these forums to present our program overviews and case studies (such as an AIA forum at which information on GSA’s Design Excellence Program and the new Seattle Courthouse was presented).

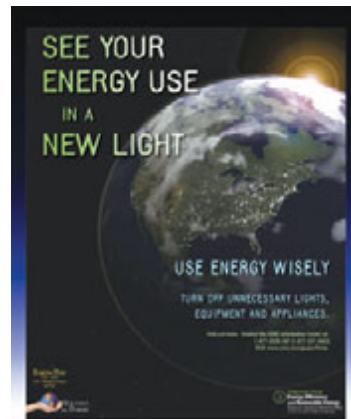
Utilities. Utilities such as Puget Sound Energy and Seattle City Light are key partners in our efficiency efforts. They frequently provide technical advice, electronic utility data, rebates, and incentives. We will track and use the many programs available to us as utility customers.

Employee and Tenant Awareness

To minimize environmental impact and meet our goals and objectives, our employees, customers, and tenants must make conscious choices daily. We all can increase efficiency through wise procurement choices such as ENERGY STAR and other energy-saving products. Additionally, our personal choices, such as turning off computers and desk lamps and accepting lighting controls and temperature set points, reduce energy use.

To support individuals on the continuum from awareness to action, we will:

- Develop outreach programs.
- Focus energy awareness efforts on Earth Day and during Energy Awareness Month.



Earth Day poster available from the Federal Energy Management Program

The REMT, along with staff and tenant representatives, will develop outreach programs for our employees and customers to promote an awareness and understanding of the objectives of our SEMP. Outreach efforts will include education, information, and training in multiple areas. Areas of outreach focus include:

- ENERGY STAR and other energy-efficient products
- Integration of sustainability in design and construction
- Use of renewable energy systems and procurement
- Facility operations focused on energy efficiency
- Informational and inspirational signage
- Incentives and motivational efforts.

We will use FEMP's promotional materials and guidance to provide informational and educational opportunities for employees, customers, and tenants.

See Appendix E for energy awareness strategies.

Awards, Recognition, and Incentives

We understand the value of recognizing achievement. It is a necessary and important activity and motivates us all to continue our efforts even when they become challenging or routine. We will use available venues and create new avenues to acknowledge energy-saving efforts, communicate progress, and determine customer satisfaction. Awards and recognition for staff, customers, architects and engineers, partners, and tenants will be a key part of our SEMP. In addition, we have created a model O&M contract, which will provide incentives to contractors to provide energy efficiency benefits as part of their O&M activities.

We will also participate in GSA's and DOE's annual energy awards. Our Region 10 has been recently honored with a Federal Energy Saver Showcase designation. The Oroville-Osoyoos Border Crossing Station in Oroville, Washington, is a showcase for saving energy and using sustainable practices and products.

(See Appendix E for information on awards.)



PIX 12701 Credit: GSA

Oroville-Osoyoos border crossing station in Oroville, Washington



Region 10 Awardees (from left) Roger Wright, John Jarosz, Carole Diamond, and Michael Okoro are honored in October 2003 for their work at the Edith Green/Wendell Wyatt federal building. Kit Meith, Regional Energy Coordinator (back row).

strategies, best practices, and tools

to successfully accomplish the goals set forth in our SEMP, we need the right resources for planning, implementation, and maintenance. The strategies, best practices, and tools that will help us accomplish our goals are available to us now. In fact, we use many of them already for projects that involve new construction, renovations, equipment replacement, retrofit projects, and building O&M. These resources help us increase energy efficiency and occupant satisfaction, reduce water consumption, support sustainability and renewable energy, and reduce utility costs.



PIX 13449 Credit: GSA

Photovoltaic installation at Wenatchee, Washington

The REMT will work with the Public Buildings Service to develop actions and an implementation schedule to meet our goals. (See Appendix B for the Goals, Resources, and Implementation Schedule.)

Life-Cycle Cost Analysis

Use of building LCC is mandated throughout E.O. 13123. We will continue to use and reinforce the use of LCC analysis to make effective, long-term business decisions about investments in energy-using systems. New construction, retrofit projects, and equipment replacement are areas in which we will use LCC. In addition, LCC is valuable in making decisions about non-energy-using materials (such as carpeting and wall treatments).

We will support the use of LCC in the following ways:

- Use LCC analysis for energy-using systems in all new construction, renovation, and retrofit projects.
- Follow the guidance developed in the LCC program used by the National Institute of Standards and Technology.
- Ensure that facility and procurement staff members are knowledgeable in the use of LCC.

For more information:

Building Life-Cycle Cost Software

http://www.eere.energy.gov/femp/information/download_blcc.cfm

Facility Energy Audits and Assessments

E.O. 13123 mandates that we audit 10% of our space each year. During the last 10 years, we have audited almost our entire inventory. We will continue to conduct energy audits, assessments, and surveys at a rate of 10% each year. Information we obtain will be used to identify the most cost-effective projects for implementation.

We will use audits and assessments to:

- Assign priorities to facilities that will receive audits on the basis of energy costs, upcoming renovations and equipment replacement opportunities, and the potential for emissions reductions.
- Use a variety of resources for audits, assessments, and surveys, such as FEMP, utilities, BPA, energy service companies (in conjunction with Energy Savings Performance Contracting), and private contractors.
- Encourage facility staff to conduct annual walk-through surveys to gain a greater understanding of their facilities and identify opportunities for more efficient operations and replacement of equipment.

For more information: Energy Services, Schedule 871 II

SAVEnergy Audits (FEMP)

http://www.eere.energy.gov/femp/services/assessments_savenergy.cfm

Project Funding and Financing

We will continue to use a variety of funding avenues for project financing. Our first step in the funding process will always be to identify available GSA internal funds. For new construction and large renovation projects, we will include the costs of sustainable design and commissioning in budget submissions. Energy and water efficiency projects, renewable energy, and other projects will require budget submission or may be combined with current construction or operations projects.

When internal funding is not available, and third-party financing appears to be the best alternative, we will encourage the use of project financing rather than delay the project.

To fulfill these objectives, we will:

- Identify the most appropriate funding option for each priority project (internal or external funding or a combination of both).
- Identify and consider the external financing options: energy savings performance contracting, utility energy savings contracting, and IAAs through BPA.
- Explore leveraging resources through partnerships. Consider rebate and incentives from utilities, other federal agencies such as BPA, solicitations for technology demonstration projects, and co-sponsorship of projects such as U.S./Canadian partnerships.

In the last 10 years, we have used alternative financing as well as internal funding for many projects. We have a solid foundation in use of energy savings performance contracting. Four projects have been awarded and others are being considered.

For more information:

Financing Mechanisms (FEMP)

<http://www.eere.energy.gov/femp/financing/mechanisms.cfm>

Energy-Efficient and Sustainable Procurement

We will continue to reinforce and expand our program to procure the most efficient and sustainable products during construction, renovation, equipment replacement, and building maintenance.

Equipment with the ENERGY STAR label will routinely be the equipment of choice. When that equipment is not available, we will select products that are in the top 25% efficiency. We will use the Environmentally Preferable Purchasing Guidelines for other purchases and the GSA Federal Supply Schedules for procuring sustainable and high efficiency products and energy services.



We will support these objectives in the following ways:

- Incorporate energy efficiency criteria into guidelines and specifications for all projects. Be consistent with use of ENERGY STAR, EPA Environmentally Preferable Purchasing, and EPA/DOE designated energy-efficiency products.
- Incorporate energy efficiency criteria consistent with ENERGY STAR and FEMP-designated products into product specification language developed for basic ordering agreements, blanket purchase agreements, architectural and engineering (A/E) services, and other purchasing procedures.

For more information:

ENERGY STAR Products
www.energystar.gov

EPA Environmentally Preferable Purchasing
www.epa.gov/oppt/epp/index.htm

FEMP Recommendations for Energy-Efficient Products
www.eere.energy.gov/femp/technologies/eeproducts.cfm

GSA Federal Supply Schedule for Energy Services
www.gsaelibrary.gsa.gov or www.gsa.gov/energyservices

Office of the Federal Environmental Executive
www.ofee.gov

Sustainable Building Design and Construction

Leading the way to sustainable design at federal facilities is an important goal for GSA Region 10. We embrace sustainable building design and “whole building” principles in which the interdependence of a building’s elements and systems is maximized to make it as sustainable and energy efficient as possible. Sustainable design recognizes the impact of every design choice (such as window placement and type of cooling system) on the natural and cultural resources of the local, regional, and global environments.



Credit: GSA

Architect's rendering of the U.S. Courthouse in Eugene, Oregon, under construction in 2005

When designing new construction and major renovations, we will use many available resources. These include the *Procurement of Architectural and Engineering Services for Sustainability*; *GSA Sustainable Design Guide*, the Facilities Standards for the Public Buildings Service, P100; *The Design Excellence Program Guide*; *Building a Legacy*; *Real Property Sustainable Development Guide*; *Best Practices Special Edition*, Fall 2002; *Whole Building Design Guide*; the LEED program of the US Green Building Council, and the Sustainable Design Studio.

The GSA Northwest/Arctic Region is currently seeking LEED certification on three buildings, two new and one existing, and one client agency is housed in leased space that is LEED certified. We have several buildings designated as Federal Energy Saver Showcases and six ENERGY STAR buildings. Four of our buildings have received national Design Excellence awards.

We will continue to support sustainable design and construction in the following ways:

- Educate asset managers, portfolio managers, project managers, facility staff, architects, engineers, designers, budget analysts, maintenance staff, and other key personnel about sustainable design principles, energy efficiency, and LCC.
- Submit budgets that include costs for sustainable design and construction; include commissioning, building modeling, and other critical elements.
- Determine beforehand the rating to be obtained for each new construction project (such as LEED [including level] or Federal Energy Saver Showcase).
- Hold design charrettes and include customers, project managers, maintenance staff, A/E team, designers, and others to identify requirements and discuss sustainability, commissioning, and optimized O&M.
- Ensure that the selection criteria for A/E firms and design/build firms include experience with energy efficiency, water conservation, use of LCC, and sustainable building design.
- Incorporate sustainable design criteria into requirements for all new construction and major renovation projects.
- Review design guide specifications and incorporate current sustainability guidance.
- Consider O&M during planning and design.
- Include building commissioning in all new construction and substantial renovation projects.

- Incorporate continuous commissioning and O&M planning in all new and renovation design specifications.
- Use software such as Building for Environmental and Economic Sustainability (BEES), Life Cycle Costing (LCC), DOE2, Energy 10, and other tools.
- Participate actively in the Federal Network for Sustainability, Sustainable Building Initiative to learn from other federal agencies and pass on our extensive knowledge.
- Continue to nominate projects and buildings for regional and national design, energy efficiency, and sustainability awards.

For more information:

Building for Environmental and Economic Sustainability
www.bfrel.nist.gov/oea/software/bees.html

Business Case for Sustainable Design in Federal Facilities
www.eere.energy.gov/femp/technologies/sustainable_federalfacilities.cfm

Child Care Center Design Guide
www.gsa.gov (Type in “Child Care Design” in search box.)
 Federal Network for Sustainability
www.federalsustainability.org

FEMP Interagency Sustainability Working Group
www.eere.energy.gov/femp/technologies/sustainable_workinggroup.cfm

GSA Publications List
www.wbdg.org/references/publications.php
Greening Federal Facilities Guide
www.eere.energy.gov/femp/technologies/sustainable_greening.cfm

Leadership in Energy and Environmental Design (U.S. Green Building Council)
www.usgbc.org

Procurement of Architectural and Engineering Services for Sustainability
www.eere.energy.gov/femp/program/procuring_services.cfm

Whole Building Design Guide
www.wbdg.org

Building and System Commissioning

GSA Region 10 is at the forefront of building commissioning in the federal government. Commissioning helps us achieve, validate, and document that our building performance and systems meet the design needs and requirements of GSA and our occupants. For example, we are using commissioning for the new Seattle Courthouse.

Because all building systems are integrated, a problem in one system or component can affect the operation and performance of other components. Identifying and eliminating problems are important for improved occupant comfort, energy savings, environmental conditions, system and equipment functioning, and building O&M.

To remain in the forefront of building commissioning, we will:

- Emphasize building commissioning in all five phases of projects: program, design, construction, acceptance, and post-acceptance/occupancy, including recommissioning and continuous commissioning.
- Use available tools such as commissioning guides, information on selection of independent commissioning authorities, commissioning specifications, and commissioning reports to define and continuously improve our knowledge of commissioning.

For more information:

Continuous Commissioning Guidebook for Federal Managers
www.eere.energy.gov/femp/operations_maintenance

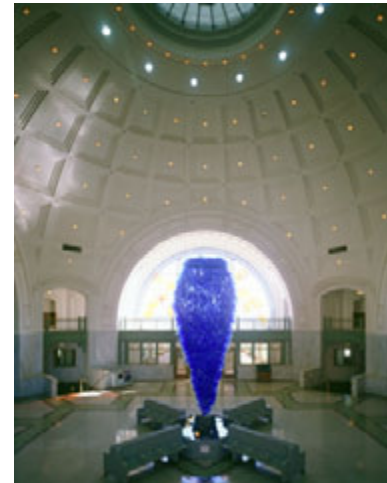
Greening Federal Facilities (Chapter 9.2—Building Commissioning)
www.eere.energy.gov/femp/technologies/sustainable_greening.cfm

Portland Energy Conservation, Inc. (PECI)—Commissioning and O&M Resources
www.peci.org/cx/index.html

Operations and Maintenance

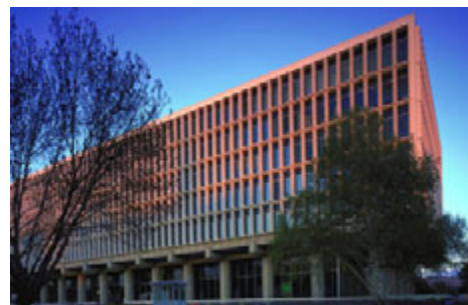
Operations and maintenance is one of the most cost-effective areas for ensuring reliability, safety, and energy efficiency. Good maintenance practices can generate substantial energy savings. Energy losses from steam, water and air leaks, uninsulated lines, and maladjusted or inoperable controls are often considerable. Improvements to facility maintenance programs can often be immediate and low cost.

To build on our excellent O&M program, we will:



Lobby of Tacoma Union Station,
Tacoma, Washington

PIX 13445 Credit: GSA



McClure Federal Building and Courthouse in
Boise, Idaho

PIX 13442 Credit: GSA

- Review and modify our regional O&M procedures and maintenance plans to reflect O&M best practices, focusing on energy efficiency and cost-effective O&M.
- Continue to educate maintenance personnel about equipment and how to optimize energy-consuming systems.
- Provide periodic training on building monitor and control systems and building control systems.
- Educate customers about comfort control and its impacts and costs.
- Budget for O&M training, continuous commissioning, and education.
- Continue to test and refine the new O&M contracts that include performance requirements and bonuses for contractors. Ensure that the performance criteria for O&M services include experience with energy management, continuous commissioning, and sustainable building practices.

For more information:

Building Operator Certification
www.theBOC.info

FEMP O&M Best Practices Guide
www.eere.energy.gov/femp/operations_maintenance

PECI O&M Best Practices Series
www.peci.org/om/index.html

Laboratory Facilities

We will continue to address the special requirements of our laboratory space to meet the federal goal of reducing energy consumption by 20% by 2005 and 25% by 2010, relative to 1990 consumption levels.

To continuously build on our laboratory experience and efficiency efforts, we will use guidance generated from the Labs for the 21st Century Program sponsored by EPA and DOE.

For more information:

Labs for the 21st Century
<http://www.labs21century.gov>

Highly Efficient Systems

As part of the federal government, GSA Region 10 is in a strong position to lead in the adoption of new and more efficient technologies, distributed energy resources, and other highly efficient systems. We will continue to identify opportunities to demonstrate the appropriate use of promising technologies and to show leadership by example.

To fulfill these objectives, we will:

- Install and use advanced metering and monitoring techniques.
- Identify opportunities for use of geothermal heat pumps, combined heat and power (CHP), biomass, micro turbines, fuel cells, and other underused technologies.
- Disseminate information within GSA and the federal sector on results of demonstration projects.

For more information:

FEMP Advanced Metering Program

www.eere.energy.gov/femp/technologies/om_advmetering.cfm

FEMP Distributed Energy Resource Program

www.eere.energy.gov/femp/technologies/derchp.cfm

FEMP Technology Demonstration Program

www.eere.energy.gov/femp/technologies/tech_demos.cfm

Greenhouse Gas Emissions Reduction

Greenhouse gas emissions could alter forests, crops, and water supplies. Agencies are directed under E.O. 13123 to “reduce their greenhouse gas emissions attributed to facility energy use by 30% by 2010 compared to such emissions levels in 1990.”

We will take advantage of all opportunities to reduce emissions through the following measures:

- Switch to less polluting fuels as opportunities are presented.
- Increase the use of renewable energy technologies such as PV, wind, and geothermal.
- Assign priorities to energy-saving projects on the basis of technologies used and potential savings to obtain the best emissions reductions.

For more information:

EPA Greenhouse Gas Emissions Information

yosemite.epa.gov/oar/globalwarming.nsf/content/Emissions.html:

Petroleum Use Reduction and Energy Security

We recognize that reducing our use of petroleum contributes to energy security. E.O. 13123, Section 205 addresses federal agencies in this regard. According to this executive order, each agency is to reduce the use of petroleum in its facilities by switching to natural gas, biofuels, or renewable energy; eliminating unnecessary fuel use; or using other appropriate methods.

We will employ the following strategies to reduce petroleum use and enhance energy security:

- Target facilities that use significant amounts of petroleum.
- Assign priorities to potential projects on the basis of LCC and potential emissions reductions.

For more information:

FEMP Renewable Energy Program

www.eere.energy.gov/femp/technologies/renewable_energy.cfm

Source Energy

GSA Region 10 will strive to reduce total energy use and associated greenhouse gas and other air emissions as measured at the source (such as at electric or coal power plants). We will undertake cost-effective projects, for which LCC analysis has verified cost-effectiveness, that result in decreasing source energy, even if site energy use (measured at the point of use) increases. In addition, projects that result in source energy reductions will contribute directly to GSA's performance in reaching greenhouse gas reduction goals.

We will undertake the following actions in support of these objectives:

- Adopt a self-generation strategy that supports the use of on-site generation and renewable energy by focusing on sites served by utilities that use fossil fuels.
- Follow guidelines to receive credits toward energy efficiency goals for cost-effective projects when source energy use declines (for example, purchasing green power or fuel switching).
- Purchase Renewable Energy Certificates.

For more information:

Purchasing Renewable Power (FEMP)

www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm

Source Energy Reduction Credit (toward energy efficiency goals)

www.eere.energy.gov/femp/pdfs/source_crediting.pdf

Purchasing Renewable Energy Certificates

GSA Energy Services Schedule 871 II

www.gsa.gov/energyservices



Wind turbine at Apeasay Organic orchard, Hood River, Oregon

Courtesy Energy Trust of Oregon, Inc.

Renewable Energy

GSA Region 10 can be a leader in the use of renewable energy. By using renewable energy at our facilities, we can help advance the renewable energy market and preserve our precious natural resources. We can also contribute to the federal government's goal of striving to acquire 2.5% of its facilities' electricity from new renewable energy sources by the end of FY 2005.

Use of renewable energy is expanding at our facilities through targeted projects and energy purchases from renewable sources. In addition, we are supporting the DOE Million Solar Roofs Initiative, which challenges the government to install 20,000 solar energy systems at its facilities by 2010.



Photovoltaic panels at Wenatchee, Washington

PIX 13448 Credit: GSA

We will take the following actions to continue our contribution to renewable energy use:

- Use screening and analysis to identify facilities that will benefit from solar water and space heating, PV, wind, geothermal, or biomass-based systems.
- Purchase and install on-site renewable energy systems that pass screening analysis.
- Procure renewable power when sources are available from serving utilities or power marketing administrations (such as BPA and the Western Area Power Administration); strive for 100% at sites when possible.
- Procure Renewable Energy Certificates/Green Tags for sites when direct renewable power delivery is not available.
- Take advantage of technical assistance, utility programs, rebates, and other resources available from serving utilities or power marketing administration.

For more information:

FEMP Renewable Energy Program
www.eere.energy.gov/femp/technologies/renewable_energy.cfm

Purchasing Renewable Power (FEMP)
www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm

Purchasing Renewable Energy Certificates
GSA Energy Services Schedule 871 II
www.gsa.gov/energyservices

Water Conservation

E.O. 13123 calls on federal agencies to install all life-cycle, cost-effective projects with fewer than 10 years simple payback. To meet that objective, we will continue to implement water-saving measures.

We will perform the following activities to save water at our facilities:

- Implement FEMP Best Management Practices (BMPs) as appropriate (in 5% of facilities by 2005 and 15% of facilities by 2007).

- Establish a reliable baseline for regional water consumption.
- Review building operating plans and include water management and BMPs wherever applicable.
- Include water cost savings and sewage savings in LCC and alternatively financed projects (such as energy savings performance contracts and utility energy service contracts).
- Perform water studies via GSA Environmental Services Schedule 899.

For more information:

Water Efficiency Goals

www.eere.energy.gov/femp/technologies/water_goals.cfm

Best Water Management Practices

http://www.eere.energy.gov/femp/technologies/water_fedrequire.cfm

FEMP Water Conservation Program

www.eere.energy.gov/femp/technologies/water_efficiency.cfm

Guidance to Federal Agencies for Determining Baseline Water Usage

www.eere.energy.gov/femp/technologies/water_baseline.cfm

GSA Environmental Services Schedule 899

www.gsa.gov/environmental_services

Showcase Facilities

The GSA Northwest/Arctic Region is a proven leader in developing high performance facilities. We will strive to create ENERGY STAR and LEED-certified buildings and use whole building design in new construction and retrofits. These facilities should contain systems that represent some of the best applications of sustainability, energy efficiency, and renewable energy in the government.

To meet this objective we will:

- Assign priorities to high performance facilities on the basis of project quality, with special emphasis on sustainable design.
- Acquire management support and budget for resources to meet designations.
- Strive to designate several facilities each year.

For more information:

High Performance Buildings (DOE Office of Energy Efficiency and Renewable Energy)

www.eere.energy.gov/buildings/highperformance

EPA ENERGY STAR Buildings

www.energystar.gov (Go to Business Improvement.)

LEED Rating System (Leadership in Energy and Environmental Design--U.S. Green Building Council)

www.usgbc.org

Leased Space

Our goal is to be a leader in providing the most sustainable, comfortable, and energy-efficient leased space to our customers. We currently include many requirements related to these topics in our lease documents.

To increase our focus on efficient and sustainable leased space, we will:

- Work with agencies to acquire new leased space or renew leases to understand the provisions in the lease agreement that pertain to energy efficiency and sustainability.
- Budget appropriately for LEED certification for space that is undergoing significant renovations.

For more information:

Greening Federal Facilities (Chapter 9.4—Leased Buildings)
www.eere.energy.gov/femp/pdfs/29267-9.4.pdf

Acknowledgments

We are grateful for the significant contributions to the content of our *Strategic Energy Management Plan* by Kit Meith, Michael Okoro, and Pat Clark at GSA, and Deb Beattie and Karen Thomas at the National Renewable Energy Laboratory (NREL). We thank Cheri Sayer and Arun Jhaveri of the U.S. Department of Energy (DOE) Western Regional Office for their valuable input, and the DOE Federal Energy Management Program.

appendix a

advisory board

Name	Representing
Standing Board Members:	
Management Advocate	GSA
PBS	GSA
FSS	GSA
FTS	GSA
GSA Energy Center of Expertise	GSA
DOE – local office	Federal Energy Management Program
Auxiliary Members:	
GSA Region	As invited
Public & Private Building Owners	As invited – Build to suit buildings; how they do their business; BOMA – building operations managers association
Utility	As invited – Utilities, BPA
Contractors	Building operations and maintenance contractors, vendors, and A/E firms
Major GSA Client	Tenants
<ul style="list-style-type: none"> ➤ Steve Butterworth, NPS ➤ Tim Scanlon, BPA ➤ Advocate for GSA 	

regional energy management team

Title	Topics and Issues
Management Advocate	Overall R10 perspective
Facilities Operations Support Branch Leader	Facility operations, maintenance, energy consumption
Regional Energy Coordinator	Energy, commissioning, sustainable design
Project Management Representative	Project management procedures and policy
Supervisory Asset Manager Representative	Service Centers and tenant awareness
Lead Electrical Engineer	Electrical design
Lead Mechanical Engineer	Mechanical design
O&M Representative	Operations & maintenance
Contracting Representative	Contracting
Architect/Designer	Architectural and interior design

appendix b

action plan

	Executive Order 13123 Topic Energy Management Plan	Resources	Target Dates
Regional Goal:	Develop the Strategic Energy Management Plan such that it supports the accomplishment of regional goals set forth in the Northwest/Arctic Business Plan.		
Responsible Office	Facilities Operations Support Branch		
Objective	Deliver superior workplace through optimized building operations and sustainable design principles. All associates incorporate SEMP objectives during decision-making process.		
Supporting Action 1	Establish the REMT <ol style="list-style-type: none"> 1. Name personnel 2. Define purpose of the REMT 3. Draft REMT Charter <ol style="list-style-type: none"> a. Develop an energy management program vision statement and develop vision statements for each member of the EM program. b. Obtain Division level signatures. 		May 15, 2005
Supporting Action 2	Develop an implementation based on the SEMP and the REMT Charter.		June 1, 2005
Supporting Action 3	Provide SEMP education to energy champions, project managers, and design teams.	See training and education objective	Ongoing
Supporting Action 4	Verify progress and course correction.		Annual
Tools	PBS Regional Business Plan GSA Strategic Plan GSA Performance Measure		

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	Executive Order 13123 Topic Facility Energy Audits (Sec. 402)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
R10 Strategic Objective	Use auditing process and results to make smart cost effective facility upgrades and modifications that will improve workspace and meet environmental goals and objectives.		
Responsible Office	Facilities Operations Support Branch		
Federal Goal	Audit 10% of facilities annually		
Supporting Action 1	<p>Generate database of prioritized facilities with year to be audited identified based on 10% per year cycle. Rank based on:</p> <ul style="list-style-type: none"> • Large square footage, heavy energy consuming facilities, and cost of energy • Facilities that have not undergone energy efficiency projects or recent renovations • Office and campus type facilities • Facilities with energy management systems • Facilities with energy champions. 		May 31, 2005
Supporting Action 2	To improve process efficiency and reduce expenditures, consider consolidating various regional assessments into a single facility audit, e.g., energy, water, safety, operations, and renovations.		July 15, 2005
Supporting Action 3	Submit budget annually for facility energy audits		April 20XX
Supporting Action 4	<p>Planned Audits for FY 2005:</p> <ol style="list-style-type: none"> 1. FBCT Anchorage ak0031aa 2. FBCT Juneau ak0013zz 3. New CT Seattle wa0102zz 4. JFB Seattle wa0101zz 5. TUS Tacoma wa7587zz 	Utility provided no- or low-cost audits and surveys DOE FEMP SAVEnergy audits ESPC and UESC projects include audits	FY 2005
Tools	DOE FEMP SavEnergy Program		

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	Executive Order 13123 Topic Energy Efficiency Improvements (Sec. 202)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Facilities Operations Support Branch		
Federal Goals	<ul style="list-style-type: none"> • 30% by 2005 • 35% by 2010 (Relative to 1985 baseline)		
R10 Strategic Objective	Reach beyond federal goals to provide fiscally smart, efficiently operated, sustainable office space.		
Supporting Action 1	Identify and prioritize projects based on value to customer, impact on environment, and cost effectiveness.	Energy project database integration	Ongoing
Supporting Action 2	Implement prioritized projects. FY 2005 Planned Projects: <ol style="list-style-type: none"> 1. Lighting for Warehouse 8, Auburn, WA. 2. Lighting for FBCT Anchorage parking garage. 3. Commissioning at JFB, Seattle, WA. 	<ul style="list-style-type: none"> • FEMP design and technical assistance, alternative finance support, and LCC analysis • ESPC and UESC 	FY 2005
Tools	<ul style="list-style-type: none"> • 1985 Building Trends spreadsheet • Financial tier information • FEMP services - design and technical assistance, alternative finance support, LCC analysis, building energy simulation modeling, DOE-2, Energy 10, SAVEnergy audits • ENERGY STAR products • Leadership in Energy & Environmental Design 		

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	Executive Order 13123 Topic Water Conservation (Sec. 207)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Implement water management plans and best management practices at sites <ul style="list-style-type: none"> • 30% of sites by 2006 • 50% of sites by 2008 • 80% of sites by 2010 		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	Establish water use in millions of gallons per year (MGY) for baseline year 2000.	http://www.eere.energy.gov/femp/technologies/water_baseline.cfm	
Supporting Action 2	Develop a water management plan and incorporate into facility planning process and operating plan.	http://www.eere.energy.gov/femp/technologies/water_fedrequire.cfm	
Supporting Action 3	Integrate water best management practices into current operating plans and put applicable O&M into practice.	Water management plans Best management practices	
Supporting Action 4	Identify water efficiency retrofit and replacement measures. Prioritize projects based on combined energy and water audits.	Energy audit prioritized list and audit recommendations Consider environmental impact, cost effectiveness and current projects.	
Tools	FEMP water efficiency improvement goal for federal agencies		

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action plan

	Executive Order 13123 Topic Sustainable Building Design (Sec. 403(d))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy coordinator with property development lead		
Federal Goals	<ul style="list-style-type: none"> • GSA, along with DOD, DOE, and EPA, develop sustainable design principles. • Apply principles to design and construction of new facilities. 		
R10 Strategic Objective	<p>Region 10 will lead by example and integrate sustainable principles in the design and construction of new facilities and major renovation projects.</p> <ul style="list-style-type: none"> • Design all new construction to meet LEED Silver rating or better. 		
Supporting Action 1	Incorporate sustainable design criteria into requirements for new construction and renovation projects. Include commissioning and recommissioning requirements.	Include sustainable experience and "sustainable design studio" as requirements for A/E contracting.	
Supporting Action 2	Implement new procurement guidelines that specify the use of sustainable materials to be used in new construction and retrofit projects.		
Supporting Action 3	Implement sustainable projects.	Greening charette	
Supporting Action 4	Track costs to show sustainable design can be done within budget.		
Tools	<ul style="list-style-type: none"> • Sustainable development guide • Whole Building Design Guide • "Procuring Low Energy Design and Consulting Services" • Sustainable working group • FEMP guidance and criteria (LEED) • GSA IDIQ (commissioning) • FEMP staff with experience (commissioning) 		

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action plan

	Executive Order 13123 Topic Renewable Energy (Sec. 204)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Expand the use of renewable energy within facilities via projects and by purchasing from renewable energy sources.		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	<ul style="list-style-type: none"> • Identify sites for renewable energy procurement. • Renewable energy certificates count toward the federal energy goal. 	Energy Center RE Purchasing Service GSA Schedule 871 II	
Supporting Action 2	Identify facilities that will benefit from solar water heating and PV.	GSA Schedule 84	
Supporting Action 3	Identify locations where green energy is available for purchase (GSA contract).		
Supporting Action 4	Identify locations where wind energy is viable.		
Supporting Action 5	Educate customers on the value of supporting RE and negotiate premiums, so that they are dropped once the RE source stands on its own.		
Supporting Action 6	FY 2005 Planned Projects: 1. Renewable energy, 10-kW PV for FBCT, Boise, ID.		
Tools	<ul style="list-style-type: none"> • GSA Schedule 871 II for online purchase of Renewable Energy Certificates <ul style="list-style-type: none"> - www.gsa.gov/advantage • PBS Energy Center can solicit proposals for purchase of Renewable Certificates • Solar equipment purchases via e-buy, Schedule 84 • FRESA screenings • FEMP Renewable Energy Workshop • Guidebook for purchasing renewable energy 		

appendix b

action plan

	Executive Order 13129 Topic Energy Star Products (Sec. 403 (b))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Region-wide with customer operations division lead		
Federal Goal	Select ENERGY STAR and other energy-efficient products when acquiring energy-using products. Select products in upper 25% of energy efficiency.		
R10 Strategic Objective	Provide customer satisfaction and save money for the taxpayers. <ul style="list-style-type: none"> • Specify ENERGY STAR and other energy-efficient products when acquiring energy-using products. • Specify products in upper 25% of energy efficiency. 		
Supporting Action 1	Include ENERGY STAR new procurement guidelines for purchase of any new equipment.		
Supporting Action 2	Implement ENERGY STAR certification.		
Tools	FEMP "Product Energy Efficient Recommendations"		

appendix b

action plan

	Executive Order 13123 Topic Green House Gas Emissions (Sec. 202)	Resources	Target Dates
Regional Goal	<ul style="list-style-type: none"> ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Property Development		
Federal Goal	By 2010, reduce greenhouse gas emissions by 30% relative to the 1990 baseline.		
R10 Strategic Objective	Deliver smart, cost-effective facility upgrades and modifications that will reduce greenhouse gas emissions.		
Supporting Action 1	Determine the 1990 baseline.		
Supporting Action 2	Prioritize identified energy efficiency projects to maximize emissions reductions based on fuel type and potential savings.	Energy audit results and project prioritization list	
Supporting Action 3	Implement projects.		
Tools	FEMP Emissions Calculation Guidance		

appendix b

action plan

	Executive Order 13123 Topic Petroleum Reduction (Sec. 205)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Through LCC measures, each agency shall reduce use of petroleum in facilities by eliminating unnecessary consumption and switching to natural gas or renewable energy sources.		
R10 Strategic Objective	Reduce use of petroleum by eliminating unnecessary consumption and switching to natural gas or renewable energy sources.		
Supporting Action 1	Identify candidate facilities to reduce use of petroleum, such as switching fuels and using renewable technologies. Prioritize projects based on LCC and potential emissions reductions.		
Supporting Action 2	Implement projects that are LCC effective and have the greatest potential for emissions reduction.		
Tools			

appendix b

action plan

	Executive Order 13123 Topic Source Energy (Sec. 206)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Undertake LCC-effective projects in which source energy decreases.		
R10 Strategic Objective	Deliver smart, cost-effective facility upgrades and modifications that will reduce source energy use.		
Supporting Action 1	Identify and prioritize LCC projects that result in a decrease in source energy use.	Decreased source energy is credited toward energy reduction even if site energy increases.	
Supporting Action 2	Implement LCC projects that reduce source energy use.		
Tools	BLCC software and training		

appendix b

action plan

	Executive Order 13123 Topic Showcase Facilities (Sec 406(e))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy coordinator with property development lead		
Federal Goal	Designate exemplary facilities with significant access and exposure.		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	Prioritize new construction and major renovation projects.		
Supporting Action 2	Initiate a “super showcase facility” or a “super energy star.”		
Supporting Action 3	Nominate showcase projects for awards.		
Tools	FEMP guidance and criteria		

appendix b

action plan

	Executive Order 13123 Topic Life Cycle Cost Analysis (Sec. 401)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Property Development		
Federal Goal	Use LCC analysis and bundle projects.		
R10 Strategic Objective	Use LCC analysis and findings for decision making on all new construction and renovation projects.		
Supporting Action 1	Provide LCC training for engineers and architects.		
Supporting Action 2	Use LCC analysis for all projects.		
Supporting Action 3	Prioritize and implement projects based on LCC.		
Tools	BLCC software and training		

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action plan

	Executive Order 13123 Topic Financing (Sec. 403 (a))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Facilities Operations Support Branch		
Federal Goal	Maximize use of alternative financing mechanisms.		
R10 Strategic Objective	Use alternative financing mechanisms where project budget is inadequate to accomplish LCC effective energy efficiency projects.		
Supporting Action 1	Energy team members attend ESPC and utility financing workshops as needed for project implementation.	DOE FEMP ESPC and UESC workshops	
Supporting Action 2	Identify all funding sources, including appropriations and financing, and use the most suitable funding source based on project conditions.	DOE FEMP alternative financing support	
Tools	<ul style="list-style-type: none"> • FEMP alternative financing workshops • FEMP "How to Choose" guidance • GSA "Procuring Energy Management Services with the Utility AWC" 		

appendix b

action plan

	Executive Order 13123 Topic Training & Education 9Sec. 406 (d))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Agencies shall ensure appropriate personnel receive training.		
R10 Strategic Objective	Provide training and education to all staff, contractors, and customers to ensure facilities are designed, constructed, renovated, operated, and occupied sustainably.		
Supporting Action 1	Develop and implement training plan to introduce the SEMP to staff, contractors, and customers.		
Supporting Action 2	Provide training and education to the REMT: <ul style="list-style-type: none"> • CO and Legal: ESPC and UESC workshops • Asset and property managers: BLCC, RE, sustainable design, ESPC, and UESC workshops etc. • Project managers, Engineers & Architects BLCC, RE, sustainable design, ESPC & UESC workshops etc. • O&M Staff: O&M workshop, ESPC and UESC workshops when applicable to their site 	DOE FEMP workshops and conferences	
Supporting Action 3	Meet with O&M and janitorial contractors to implement energy efficiency performance requirements, discuss progress and improvements.		
Tools	FEMP training catalog		

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action plan

	Executive Order 13129 Topic Energy Awareness	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	<p>Regional energy management team with regional energy coordinator lead</p>		
R10 Strategic Objective	<p>Develop and implement an energy awareness program that results in consistent reduction in energy use due to staff and customer choices.</p>		
Supporting Action 1	<p>Develop a regional awareness plan with involvement across all divisions and include input from contractors and customers.</p>		
Supporting Action 2	<p>Educate: schedule awareness sessions with management analysis review system (MARS) reviews at property management offices.</p>		
Supporting Action 3	<p>Celebrate accomplishments: recognize efforts and accomplishments:</p> <ul style="list-style-type: none"> • Nominate individuals and groups for the Region 10 awards. • Develop a fact sheet of accomplishments like cogeneration, PV, fuel cells, micro turbines. • Build a portable display for training and presentations. • Develop a flow chart with communications interfaces. Delineate a design from operations, fleet, asset managers, and other groups. 		
Tools	<p>FEMP You Have the Power campaign resources</p>		

appendix b

action plan

	Executive Order 13123 Topic FLEET	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	FLEET		
Federal Goal			
R10 Strategic Objective	Reduce our impact on the environment through thoughtful implementation of fleet management. Purchase quality fuel-efficient vehicles.		
Supporting Action 1	Develop a mobility plan that includes staff education.		
Supporting Action 2	Make smart leasing and purchasing choices based on environmental requirements and impacts.		
Supporting Action 3	Use alternative fuels and alternative fuel vehicles where possible: <ul style="list-style-type: none"> • LPG • CNG • Biodiesel • Ethanol • Hybrid vehicles 		
Supporting Action 4	Incorporate the use of recycled carpeting, recycled paint, solar power, solar lighting in our Fleet Center.		Complete
Supporting Action 5	Reuse and recycle fleet related products and materials: <ul style="list-style-type: none"> • Re-refined oil • Recycled anti-freeze • Retread tires • Remove mercury switches from disposal vehicles prior to sale. 		Ongoing
Tools			

appendix b

action plan

	Executive Order 13123 Topic Security	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team		
R10 Strategic Objective	Enhance facility and energy security through thoughtfully designed, constructed, renovated, operated and occupied facilities. Use site generation where necessary and renewable generation where applicable.		
Supporting Action 1	Use standby generators for load shedding.		
Supporting Action 2	Encourage on-site renewables.		
Tools			

appendix b

action plan

	Executive Order 13129 Topic GSA Scorecard	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Each agency shall submit annual reports and be given an annual scorecard.		
R10 Strategic Objective	Meet or exceed the requirements of the Energy Policy Act and the various executive orders addressed in the SEMP.		
Supporting Action 1	Train staff in the use of the GSA reporting system.		
Tools			

appendix C

fy 2005 federal agency energy scorecard

Department/Agency Name	Contact Name and Phone		
Name of Senior Energy Official	Signature of Senior Energy Official		
Did your agency . . .	Yes	No	Anticipated Submittal Date
1. Submit its FY 2005 energy report to OMB and DOE by January 1, 2006 (Sec. 303)?			
2. Submit a FY 2006 Implementation Plan by January 1, 2006 (Sec. 302)?			
3. Implement or continue to use renewable energy projects at federal installations or facilitate the siting of renewable generation on federal land in FY 2005 (Sec. 204)? (Report all self-generated renewable energy from projects installed after 1990; refer to Table 1-7 on the Energy Management Data Report.)			If yes, how many projects and how much energy generated? (Specify unit: MWh or MMBtu) Solar _____ Wind _____ Thermal ¹ _____ Biomass _____ Other RE _____
4. Purchase energy generated from new renewable energy sources in FY 2005 (Sec. 204)? ²			If yes, how much: _____ MWH or _____ MMBtu
5. Invest direct FY 2005 appropriations in projects that contribute to the goals of the order (Sec. 301)?			If yes, how much: \$ _____
6. Specifically request funding necessary to achieve the goals of the order in its FY 2007 budget request to OMB (Sec. 301)? (Refer to OMB Circular A-11, Section 25.5, Table 2.)			If yes, how much: \$ _____
7. Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)?			What percentage of facility space was audited during the FY? _____% How much facility space has been audited since 1992? _____%
8. Issue to private sector energy service companies (ESCOs) any energy savings performance contract (ESPC) task orders (Sec. 403(a))? (Refer to Table 2-2 on the Energy Management Data Report.)			How many? _____ Annual savings (MMBtu): _____ Total investment value: ³ \$ _____ Cumulative guaranteed cost savings: \$ _____ Contracts award value: \$ _____
9. Issue any utility energy services contract (UESC) task orders (Sec. 403(a))? (Refer to Table 2-3 on the Energy Management Data Report.)			How many? _____ Annual savings (MMBtu): _____ Total investment value: ³ \$ _____ Cumulative cost savings: \$ _____ Contracts award value: \$ _____

Did your agency . . .	Yes	No	Anticipated Submittal Date
10. Incorporate energy efficiency requirements into relevant acquisitions (Sec. 403(b)(3))?			
11. Adopt and apply the sustainable design principles (e.g., Whole Building Design Guide, Leadership in Energy and Environmental Design (LEED)) to the siting, design, and construction of new facilities or major (budget line item) renovations begun in FY 2005 (Sec. 403(d))?			Number of new building design/construction projects in FY 2005: _____ Number of these projects that can or will be certified under LEED: _____
12. Provide training to appropriate personnel ⁴ on energy management (Sec. 406(d))?			Number of appropriate personnel trained: _____ Total number of appropriate personnel: _____
13. Implement any additional management tools (Sec. 406)?			Check all that apply: Awards: _____ Performance Evaluations: _____ Showcase Facilities: _____ Number of Showcase Facilities designated in fiscal year: _____
14. Establish water management plans (WMPs) and implement at least 4 best management practices (BMPs) in at least 10% of agency facilities (Sec. 207,503(f))?			Number of facilities with WMPs and 4 BMPs: _____ Number of facilities in agency inventory: _____

NOTE: Provide additional information if a “No” reply is used for any of the questions above.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2004)	Current Year (2005)	% Change (Current vs. Base)
15. Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	Btu/ft ²	Btu/ft ²	Btu/ft ²	%
16. Source Energy Use (Sec. 206). 1985 Base Year	BBtu	BBtu	BBtu	%
17. Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	Btu/unit	Btu/unit	Btu/unit	%
18. Water Conservation Goal (Sec. 207). 2000 Base Year	MGal	N/A	MGal	%
19. Renewable Energy (Sec. 204) used from self-generation and RE purchases	N/A	BBtu	BBtu	N/A

Abbreviation Key:

Btu/Ft² = British thermal units per gross square foot
 Btu/unit = British thermal units per unit of productivity
 (or gross square foot when such a unit is inappropriate or unavailable)
 MGal = Million gallons
 MMBtu = Million British Thermal Units
 BBtu = Billion British Thermal Units
 RE = Renewable energy
 N/A = Not applicable

¹ Examples are geothermal, solar thermal, and geothermal heat pumps. Thermal energy from geothermal heat pumps should be determined as follows: Thermal energy = Total geothermal heat transferred – electrical energy used.

² “New” renewable energy means sources developed after 1990.

³ Investment value includes design, materials, labor, overhead, and profit, but excludes contractor’s financing costs and government’s administration costs. Using investment value allows comparison with other traditional execution methods such as appropriated and working capital funded projects

⁴ Appropriate personnel include the agency energy management team as well as federal employees and on-site contractors who are energy or facility managers, operations and maintenance workers, design personnel, procurement and budget staff, and legal counsel.

appendix d

training plan

The GSA Region 10 multiyear training plan will be developed by the REMT and updated periodically. It will include training scenarios for different positions.

The objective of the training plan is to educate staff and operations and maintenance personnel to be knowledgeable about and motivated toward energy efficiency and sustainability. It will be GSA Region 10 policy to support associates who wish to become certified energy managers, LEED-accredited professionals, or active members of the Association of Energy Engineers.

Possible training events:

Green-Build Expo (annual)
DOE Energy Conference (annual Energy20xx) and workshops
AEE Certified Energy Manager training
LEED Accredited Professionals training

appendix e

energy awareness strategies

TheREC will lead GSA Region 10's energy awareness campaigns, along with the REMT, tenant agencies, maintenance contractors, and others as necessary. Below is a sample template to help develop energy awareness strategies.

Energy Awareness Campaign Strategy

Ten to thirty percent of energy consumption can be saved through employee choices. In energy-saving campaigns, involve employees at both GSA and tenant facilities. Educate, motivate, and involve individuals to help them consciously choose to reduce energy, recycle, commute by carpooling or using alternate ways to get to work, and elect other energy-saving options.

Develop a plan to be used throughout the region. Develop training to educate on the plan.

- Daily work activities
- Fleet use
- Procurement choices.

Determine water, energy, recyclable materials, and commuting footprints according to

- Work groups
- Facility types
- Job types.

Calculate impact based on equipment used, lights, hours of business, drive to work, and so forth. Derive a baseline for the group in Btu/day/person.

Create incentives such as competition between groups to reduce the baseline in Btu/day/person.

- Reward the lowest baseline.
- Reward the biggest improvement over time.
- Reward maintenance of low Btu/day/person (this would mean points for taking the bus, walking, and carpooling, and for turning off lights and equipment).

Recognize achievements with awards and celebrations.

- Acknowledge architectural and engineering staff and GSA staff on great projects.
- Show status and results of conscious efforts. Use case studies, newsletters, an annual open house, and other means to show results of conscious efforts. Graphics illustrating baseline, current status, and targets show results at a glance.



We are in the business of providing workplace solutions to thousands of federal employees. Because of the large volume of our business, we have the ability to influence markets with our informed decisions regarding the use of energy-efficient practices, sustainable design, renewable power purchases, and other sustainability practices.

To meet the objectives of our *Strategic Energy Management Plan*, we must consistently integrate the guidance in our plan with our daily operations. In our purchasing decisions, we must consider energy efficiency, renewable energy, recycled products, and other sustainable options. We will give attention to Leadership in Energy and Environmental Design (LEED), sustainability, building commissioning, and other energy and resource conserving practices. These are piers in the foundation of energy efficient building design and operation.

It is true that federal Executive Orders and the Energy Policy Act mandate the goals you will find contained in this plan. However, it is up to each of us to work to achieve these goals. Every associate in our workforce makes business and personal decisions throughout the day that can advance sustainable principles. I ask that each of you make a personal commitment to carry out our plan.

Sincerely,

Robin G. Graf
Assistant Regional Administrator



The Federal Supply Service will actively support the Strategic Energy Management Plan through our Multiple Award Schedules program. Our schedules provide, at best value, a source for virtually every commercial product or service you may need. The Energy Services Schedule 871 II and Environmental Services Schedule 899 can deliver a variety of comprehensive solutions that could assist with the implementation of this plan. These schedules provide access to contractors for energy audits, resource efficiency management, use of alternative and renewable energy sources, building commissioning, recycling and disposal, remediation and more. We stand behind our commitment to provide what you need.

Our GSA Fleet provides quality Alternative Fuel Vehicles (AFVs) to assist Customer Agencies in meeting The Energy Policy Act (EPACT) of 1992 and Executive Order 13149 which mandates federal agencies to acquire Alternative Fuel Vehicles (AFVs) and to reduce fuel consumption. GSA Fleet also actively promotes and educates on the merits of the alternative fuels vehicle program through sponsoring local seminars and focus groups. GSA partners with State and local Governments as well as private industry in promoting the use of Alternative Fuels through the Clean Cities Coalitions.

GARY G. CASTEEL
Assistant Regional Administrator
Federal Supply Service
Federal Technology Service

introduction

our *strategic energy management plan* (SEMP) will help us to fulfill both the General Services Administration (GSA) mission and our regional vision of better serving the public by exceeding expectations. It will allow us to reach beyond the government mandates and become environmental leaders in our communities of the beautiful Northwest and Arctic regions of the United States. We developed this SEMP specifically for GSA Region 10 to create a custom roadmap for making smart financial and thoughtful environmental decisions about sustainable and energy-saving practices at our facilities in Alaska, Idaho, Oregon, and Washington.



Mendenhall Glacier, near Juneau, Alaska

PIX 13447
Credit: Susan Szczepanski

This plan is a work in progress. We will review it every two to three years to refine it as a valuable tool that will help us implement sustainable energy management practices. Your input is welcome and needed to further craft our SEMP, so it helps each of us contribute to a sustainable future.

Using the SEMP

The SEMP is both a guide and workbook. It describes how we intend to implement our plan and how it will be improved. Whether facilities are leased or owned, new or old, this plan will help operations managers, design teams, and others accomplish energy goals and balance costs.

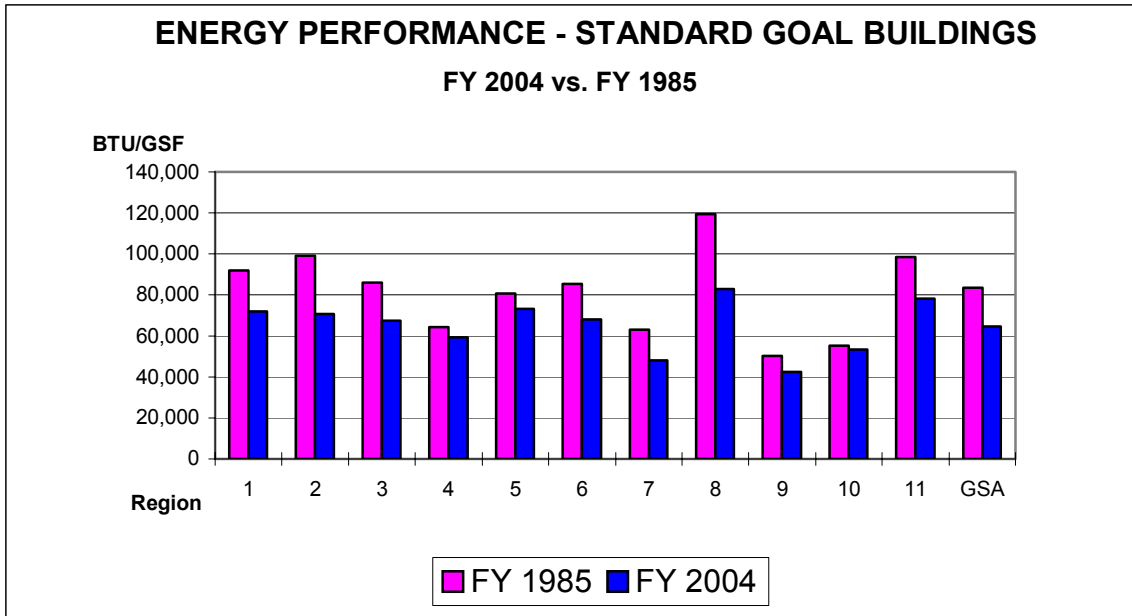
The SEMP provides the strategies, best practices, and tools we can use to meet the objectives outlined in this section. It also contains resources, strategies, and a variety of information on energy management practices and policies.

Objectives in the Northwest/Arctic Region	
Objectives	To achieve our objectives we will . . .
Improve asset value and reduce operating costs	Maintain a portfolio of efficient, sustainable workspaces with comfort conditions that enhance productivity, meet customer needs, and achieve financial objectives.
Ensure focus on sustainability in facility design, renovation, and construction	Enhance, support, and guide regional processes to ensure that new and renovated facilities are designed, constructed, commissioned, and operated with energy and water sustainability in mind.
Install renewable systems and procure renewable source energy	Seek to influence the movement of government agencies toward renewable energy sources by installing renewable systems and procuring energy from renewable sources, as well as leveraging our buying power to obtain the best pricing available in the market.
Strengthen energy security	Install on-site generation for reliable and secure energy and power (life-cycle cost-effective when feasible); consistently implement demand reduction and energy conservation measures at our facilities.
Provide education	Educate and involve tenants, employees, and visitors in our energy conservation efforts through awareness campaigns and other communication so they can make informed choices that have positive environmental results.

Regional Goals
1. Provide best value for customer agencies and taxpayers by establishing strategic and tactical partnerships with customers, comparing costs with the private sector, and measuring customer satisfaction.
2. Achieve responsible asset management by diligently and fully implementing the “Family of Plans,” deriving maximum benefit from the Public Buildings Service (PBS) inventory, and implementing the National Portfolio Strategy.
3. Operate efficiently and effectively by applying results-oriented business measures, sharing best practices, evaluating the organization to ensure optimum support, managing operating costs, and improving project delivery for revenue start.
4. Ensure financial accountability by establishing financial targets and measures, maximizing funds from operations, and maintaining accurate financial data.
5. Maintain a world-class workforce and a world-class workplace by promoting associate engagement and development, succession planning, and a world-class workplace in conjunction with PBS’s national Human Capital Strategy.
6. Carry out social, environmental, and other responsibilities as a federal government agency by maintaining an active child care program, supporting the Good Neighbor Program, promoting “green” programs, conserving energy, and meeting Procurement Preference Program goals.

Progress toward Our Energy Goals

In the GSA Northwest/Arctic Region, we intend to continue our steady progress in reducing Btu-per-gross-square-foot energy consumption in our buildings. We are also working to meet our regional energy goals. The energy performance graph shows our progress as of September 2004. It compares Region 10's energy consumption progress with that of other GSA regions and with GSA as a whole. For these comparisons, FY1985 data are used for the baseline.



Facility Operations

GSA Northwest/Arctic Region facilities include a variety of federally owned and leased buildings. Our inventory consists of office buildings, courthouses, border stations, warehouses, laboratory space, and child care space.

We can meet our targets by focusing our customer operations, portfolio management, property management, and business services on environmental stewardship.



Tacoma Union Station, Tacoma, Washington

PIX 13444 Credit: GSA

To meet those targets we will:

- Identify and track energy consumption.
- Provide information to building tenants about the status of energy and sustainability projects.
- Demonstrate to customers the results of projects and efforts.
- Ask our tenants for feedback about the building environment to improve where necessary and to determine the effectiveness of our sustainable operating and custodial procedures.

Region 10 Annual Energy Consumption		
	Amount	Cost
Electricity	118,717,722 kWh	\$6,054,207
Natural Gas	10,234,774 CF	\$1,469,210
Fuel Oil	Not available this edition	Not available this edition
Steam	28,546 MLB	\$451,770
Geothermal	Not available this edition	Not available this edition

policy

national and agency policies and mandates provide the guidance and specific directives we need to follow while we pursue our energy and environmental goals and objectives. On a national level, legislative directives and executive orders provide mandates related to energy and the environment for federal agencies. And on an agency level, GSA has developed energy management policies and procedures that are relevant to its mission.

National Policy

The Energy Policy Act of 1992, along with its amendments to the National Energy Conservation Policy Act, forms the statutory basis of federal energy management activities. Subtitle F of the Act focuses on energy management at the federal agency level. This Act also authorizes federal agencies to use third-party project financing that is offered by utilities and energy service companies. (For more information about the Energy Policy Act, see the Federal Energy Management Program's (FEMP) Web site: www.eere.energy.gov/femp/about/legislation.cfm.)

Congress is considering a new National Energy Policy Act. If approved, this policy would create new requirements. In lieu of a new comprehensive policy, some aspects of the National Energy Policy Act may be enacted separately. We will track progress of the bills and incorporate any new requirements into an updated SEMP.

Executive Order 13123, Greening the Government Through Efficient Energy Management

E.O. 13123 (June 8, 1999) builds on work begun under the Energy Policy Act of 1992 and directs the federal government to take a leadership role in efficient energy management by significantly improving energy use to save taxpayer dollars, reduce dependence on foreign energy sources, and reduce emissions that contribute to air pollution. It directs agencies to conserve water and to use more cost-effective renewable energy technologies, which include solar, wind, geothermal, and biomass energy systems. This Executive Order is the basis for all federal agency mandates. (For more information on guidance for Executive Order 13123 see FEMP's Web site: www.eere.energy.gov/femp/about/legislation.cfm.)



Federal office building, Seattle, Washington

PIX 13443 Credit: GSA

Goals of Executive Order 13123		
Category	Goal	Comments
Greenhouse Gas Emissions	30% reduction by 2010	Base year is 1990. U.S. Department of Energy will calculate agencies' progress toward this goal and report it on agencies' annual energy scorecards.
Energy Efficiency		
Standard Buildings	30% improvement by 2005 35% improvement by 2010	Base year is 1985.
Industrial Facilities Laboratory Facilities	20% improvement by 2005 25% improvement by 2010	Base year is 1990.
Exempt Facilities	N/A	Despite the lack of quantitative goals, agencies should implement strategies to improve energy efficiency at these facilities.
Audits	Conduct audits for energy efficiency on 10% of facilities annually.	
Renewable Energy	Implement renewable energy projects. Purchase electricity from renewable energy sources. Install 2,000 solar energy systems at federal facilities by 2000. Install 20,000 solar energy systems at federal facilities by 2010.	Renewable Energy Certificates can be purchased via GSA Schedule 871 II. These certificates count toward the federal energy goal. Solar equipment can be purchased via e-buy, from Schedule 84. Installing federal solar energy systems will help support the Million Solar Roofs Initiative.
Petroleum	Reduce petroleum use.	Switches to alternative energy sources should be cost effective as determined by life-cycle cost analysis.
Source Energy	Reduce use of source energy.	Accomplish by undertaking projects that are cost effective as determined by life-cycle cost analysis.
Water Conservation	Reduce water consumption.	Accomplish with life-cycle cost-effective measures and financing mechanisms such as energy savings performance contracts. Agencies must implement water management plans and best management practices in their facilities and reduce water consumption according to the following schedule: 30% by 2006 50% by 2008 80% by 2010 Based on 2000 base year

Additional Requirements of Executive Order 13123

- Increase use of alternative financing arrangements.
- Purchase ENERGY STAR[®] equipment.
- Increase use of renewable power sources (on-site projects and green power purchases to equal 2.5% of requirements by 2005).
- Build and retrofit buildings to ENERGY STAR levels.
- Incorporate sustainable design principles in building projects.
- Submit an annual Energy Implementation Plan.
- Designate senior official and energy teams.
- Submit annual information and scorecard.

Executive Order 13101, Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition

E.O. 13101 (September 16, 1998) requires agencies to establish an Environmental Executive position; incorporate waste prevention and recycling in daily operations; and purchase and use environmentally preferable products and services, including recycled goods. (For more information, consult the following Web sites: FEMP Web site at www.eere.energy.gov/femp/technologies/sustainable_fedrequire.cfm and the Office of the Federal Environmental Executive Web site at www.ofee.gov/eo/eo.htm.)

Executive Order 13148, Greening the Government Through Leadership in Environmental Management

E.O. 13148 (April 21, 2000) requires the government to provide leadership to integrate environmental accountability into all operations; implement strategies to support environmental policies and procedures; comply with environmental regulations and emphasize pollution prevention; inform workers and the public of possible pollution sources; and develop environmental management systems. (For more information, visit the Office of the Federal Environmental Executive Web site at www.ofee.gov/sb/policies.html.)

Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution or Use

E.O. 13211 (May 18, 2001) requires agencies to prepare a Statement of Energy Effects when undertaking certain agency actions, including actions having significant adverse effects on energy supply, distribution, or use. These statements will provide useful energy-related information and hence improve the quality of agency decision-making.

Executive Order 13212, Actions to Expedite Energy-Related Projects

E.O. 13212 (May 18, 2001) calls for executive departments and agencies to expedite projects that increase the production, transmission, or conservation of energy.

Executive Order 13221, Energy-Efficient Standby Power Devices

E.O. 13221 (July 31, 2001) mandates the purchase of products that use minimal (less than 1 Watt) of power while in their standby power consuming mode. (For more information, see FEMP's Web site: <http://www.eere.energy.gov/femp/about/legislation.cfm>.)

Executive Order 13149, Greening of the Government Through Federal Fleet and Transportation Efficiency

E.O. 13149 (April 26, 2000) calls for the government to take a leadership role in reducing petroleum consumption by improving the fuel efficiency in federal fleets and using alternative fuel vehicles and alternative fuels. (For more information, visit the U.S. Environmental Protection Agency [EPA] Web site at www.epa.gov/fedsite/eo13149.htm.)

Executive Order 13150, Federal Workforce Transportation

E.O. 13150 (April 21, 2000) directs agencies to provide staff with alternatives to reduce work-related transportation and fuel use, such as flexible workplace arrangements, car-pooling, public transit reimbursement, and bicycle arrangements such as showering facilities. (For more information, visit the U.S. Department of Transportation Web site at www.fta.dot.gov/library/policy/cc/eo13150.htm.)



Alternative fuel vehicles help agencies reduce petroleum consumption

PIX 05055 Credit: Warren Gretz

GSA Policies

GSA policies provide guidance on achieving our energy management goals. GSA’s guidance includes facility standards, design information, best practices, and other supportive information and tools. Our regional goals fully embrace and comply with all GSA internal policy. In addition, they meet or exceed the federal legislation and executive orders regarding environment and energy.

For more information:

Facility Standards (PBS P100)
http://insite.gsa.gov/_pbs/pc/

GSA Sustainable Design
<http://insite.pbs.gsa.gov/PL/home.asp>

GSA’s Design Excellence Program
www.gsa.gov (click on Design Excellence Program)

GSA Web site
www.gsa.gov

GSA Real Property Web site
www.gsa.gov/realpropertypolicy

Real Property Management Sustainable Development Guide (hard copy)

Energy, Environmental, and Sustainable Design in Lease Acquisition

Real Property Leasing Activities

“We concentrate on re-refined oil, recycled anti-freeze, retread tires, and alternative fuel vehicles—LPG, CNG, biodiesel, ethanol, hybrid. We have incorporated recycled carpeting, recycled paint, solar power, and solar lighting into our Fleet Center and we remove mercury switches from disposal vehicles before we sell them.

*Lori Anderson
Puget Sound Fleet Manager*

approach

we are committed to reaching our energy management goals through the collaborative efforts of each GSA service (Public Buildings Service, Federal Supply Service, and Federal Technology Service), smart fiscal strategies, partnerships, and our personal commitments.

Partnerships form the foundation of the SEMP. We will combine our talents, knowledge, and services to provide comfortable, energy-efficient, and sustainable workspaces and products at the best value to our customers. We will also lead by our own example. Our actions will reflect our priorities of sustainable principles and smart fiscal strategies.



Wenatchee solar project team

PIX 13346 Credit: GSA

The basic elements of our approach are:

- Program Administration
- Program Budget
- Program Performance and Evaluation
- Training and Education
- Coordination and Collaboration
- Employee and Tenant Awareness
- Awards and Recognition

Program Administration

Two primary groups will administer our SEMP: an advisory board and a regional energy management team. See Appendix A for membership.

Advisory Board

The advisory board will meet periodically to advise on the components of the SEMP and review our progress. This board will include representatives from the Federal Supply Service and the Federal Technology Service. A chair from the Public Buildings Service will oversee the board. The board may include a National Energy Center representative and a representative from another GSA region. It may also include representation from public and private regional landlords, contractors, and other federal agencies such as the U.S. Department of Energy (DOE).

Regional Energy Management Team

The regional energy management team (REMT) will be composed of representatives from the Public Buildings Service and led by the regional energy coordinator (REC). The REMT will use a cooperative approach to identify and pursue opportunities to achieve the intent of the SEMP. Team members will be invited to participate in project planning, budget planning, design charrettes, and other key meetings.

The management advocate will support the SEMP and enhance the effectiveness of the REMT. The REC will facilitate the implementation of the SEMP through coordination, communication, and guidance. The

role of the other team members will be to participate fully by contributing their expertise, current information, and commitment to meet the objectives of our SEMP.

Regular team meetings will be held to provide opportunities to communicate, define, and improve processes to meet our goals and allow feedback for improvement. Focus meetings will address specific issues or projects and identify resources and opportunities.

Roles and Responsibilities of REMT Members

Management Advocate. Encourages collaboration across divisions and represents the interests of the region, the SEMP, and the REMT during management resource planning discussions.

Technical Support Team Leader. Provides the connection between management and the REC, distributes and interprets energy policy, and provides guidance on priorities.

Regional Energy Coordinator. Is the PBS spokesperson and coordinator for the REMT, collaborates and shares lessons learned with the Energy Center of Excellence and other regions and agencies, coordinates and leads REMT meetings, carries out action items identified in the SEMP, and coordinates and implements the energy program.

Portfolio Management and Property Development

Representatives. Bring the perspective of the project managers, suggest procedural and policy changes essential to implementation of the SEMP, identify opportunities and projects, and share objectives and lessons learned.

Supervisory Asset Manager Representatives. Bring the perspective of the service centers, identify concerns and needs of the field, suggest essential procedural and policy changes to implement the SEMP, identify opportunities and projects, and collaborate and share lessons learned with other asset managers. Asset managers may lead efforts to encourage and educate staff and tenants in energy awareness and conservation.

Lead Electrical Engineer. Brings the perspective of the electrical design group to the REMT, identifies projects and opportunities, and transfers implementation strategies back to the design group.

Lead Mechanical Engineer. Brings the perspective of the mechanical design group to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the design group.

Facilities Services Support Branch Representative. Brings the perspective of the O&M staff to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the O&M staff.

REMT Roles



- Educate, motivate, and acknowledge success.
- Carry out the action items from the SEMP.
- Identify and implement projects.
- Check progress, set new goals, and move forward.

Project Architect/Designer. Brings the perspective of the architectural design group to the REMT, identifies opportunities and projects, and transfers implementation strategies back to the design group.

Contracting Representative. Provides contracting expertise, brings the perspective of the contracting group to the REMT, suggests essential procedural and policy changes, identifies opportunities and projects, and transfers implementation strategies back to the contracting group.

See Appendix A for REMT membership.

Program Budget

With environmental leadership as our goal and smart fiscal planning as our objective, we will continue to prepare and request an inclusive annual energy budget to submit as a specific line item. This budget will include funds to accomplish the initiatives, goals, and objectives of our SEMP. In addition, we will focus on opportunities to use all current budgets to fulfill the objectives of this plan.

As a region, all project cost estimates will include the resources to design, implement, commission, and verify project savings. With input from Public Buildings Service staff, the REMT will develop a 5-year plan to achieve the objective of the SEMP. (See Appendix B for the Goals, Resources, and Implementation Schedule.)

Our budget submissions for all new and renovation construction projects will include costs for:

- Sustainable design and construction
- Life-cycle, cost-effective energy projects
- High efficiency replacement equipment purchases
- Energy efficiency-focused operations and maintenance (O&M) and continuous commissioning
- Renewable energy procurements and projects
- Environmentally preferable product purchases.

We will continue to use third-party financing when appropriate.

Project Budgeting

Funds for projects typically are allocated in the following budget accounts:

- New construction – BA51
- Major reconstruction/renovation – BA55
- Operations and maintenance (equipment replacement, minor projects) – BA61, BA63
- Repair and alteration – BA54.

Budget Process

Ongoing energy project identification and analysis are conducted. Funding is provided based on life-cycle cost (LCC) analysis. Projects should be submitted to the Energy Center of Expertise as soon as energy audits are completed.

Program Performance and Evaluation

The progression to leadership in energy efficiency and sustainability depends on effective program evaluation and honest performance feedback. The REMT will work each year with the advisory board to solicit input on additional goals for our SEMP, identify revisions and additions, and gauge our performance for the past year.

The intentions of performance evaluation are to:

- Track, monitor, and report on progress and activities of the SEMP.
- Request input from and provide feedback to service centers, project management, facility operations, and others.
- Provide information for the annual report to DOE and the Office of Management and Budget scorecard.
- Use our annual DOE reporting exercise as an opportunity to evaluate our performance.
- Use the GSA scorecard to identify opportunities to support goals and improve on performance.
- Invite input from and provide feedback to our clients and customers.
- Inform tenants of energy consumption history, progress toward goals, and impact of their actions.

See Appendix C for the Federal Agency Energy Scorecard.

Training and Education

Because adequate training is essential to meet our goals and objectives, we will strive to provide personnel with the training to carry out the goals of our SEMP. We have provided many training opportunities for staff to become knowledgeable in energy efficiency, efficient O&M, sustainable buildings, Leadership in Energy and Environmental Design (LEED), performance contracting, renewable energy projects, water conservation, and other areas that are pertinent to our SEMP. We will increase opportunities for education, on-the-job training, mentoring, presentations, and workshops.

We will strive to provide training opportunities that are cost effective. These include local training opportunities, hands-on education (such as photovoltaic [PV] installation), regional meetings that provide information and education for specific groups (annual Building Operator Conference), and on-site group training by educators from outside GSA.

In addition, we will continue to take advantage of the certification programs available to us, such as Certified Energy Manager, Operation and Maintenance Manager, and LEED accreditation.

See Appendix D for training information.

Our training goals will be supported by the following activities:

- The REMT will identify, recommend to staff, and take advantage of training opportunities.
- We will identify and encourage targeted training for the management team, project managers, asset managers, designers, O&M staff, and custodial staff.
- We will work with other agencies in the region to identify and sponsor or co-sponsor training sessions.

For more information:

Better Bricks (Northwest Energy Efficiency Alliance)
www.betterbricks.com/default.aspx

DOE Western Regional Office
<http://www.eere.energy.gov/sro/>

Energy Ideas Clearinghouse
www.energyideas.org

Federal Energy Management Program Training
<http://www.eere.energy.gov/femp/services/training>

U.S. Green Building Council
www.usgbc.org

Coordination and Collaboration with Others

Our internal and external partners are valuable resources for information sharing, collaboration, and technical assistance. We will continue to collaborate with these partners and look for additional opportunities to share resources and information and to achieve common objectives.

Internal Partnerships

Portfolio Development Division. Portfolio Development provides strategic vision and operational guidance that is responsive to our business partners throughout the region.

Portfolio Management Branch. See the FY 2005 business plan.

The Asset Management Team provides long-term asset strategies for development, end uses, and quality financial performance.

The Professional Services Team provides pre-project planning and project follow-through with regards to technical expertise in architecture, engineering, interior design, and life safety. Staff are also designated as Regional Authorities Having Jurisdiction in the areas of life safety, fire safety, environmental, and occupational safety and health.

Property Development Division. Property Development provides project management, acquisition services, and technical support for all areas of PBS.

Facilities Operations Support Branch. This branch will work with the service centers and supervisory asset managers to create energy-efficient, sustainable facilities. They will encourage tenants to participate in the development of energy awareness plans with the REMT and to make conscious choices to reduce the impact on the environment through everyday activities and procurement.

Business Service Division

Financial Services Branch. This branch provides easy and effective access to an array of energy services. These services range from auditing, technical review, and design to alternative financing

mechanisms. By collaborating, we can obtain a variety of support and assist our sister organization with continuous feedback to maintain the high quality of service offered in the schedule.

External Partnerships

Federal Agencies. Coordination with other federal agencies is another key aspect of realizing our goals. We have a thriving relationship with FEMP and the Western Regional Office. Through an Interagency Agreement (IAA) we can access the many services and resources FEMP offers to federal agencies. In addition, the DOE National Laboratories—including Lawrence Berkeley National Laboratory, the National Renewable Energy Laboratory, Oak Ridge National Laboratory, and Pacific Northwest National Laboratory—are available to provide reimbursable expertise. They offer SAVEnergy audits, surveys, technical and design assistance, alternative financing, and other support.

“ Developed with assistance from the National Renewable Energy Laboratory and FEMP/Western, GSA Region 10’s SEMP is an example of collaboration on a shared vision. ”

Arun Jhaveri
Regional Technology Manger
U.S. DOE/FEMP/Seattle

Bonneville Power Administration (BPA). The BPA continues to be a key partner. It provides technical and financial assistance for energy efficiency projects through an IAA.

Federal Executive Board (FEB). The FEB improves coordination among federal activities and programs outside the Washington, D.C., area. Members provide information about new and current sustainability and energy programs to the regional offices.

Federal Network for Sustainability (FNS). The FNS is composed of more than 13 federal agencies in the West and works to promote sustainable practices. The Northwest/Arctic Region has been a member of the FNS and is in the process of re-signing the Statement of Unity and assuming a more active role in the group.

Regional Councils. Councils such as the Puget Sound Real Property Council help us achieve our goals. Key presentations have been given to the groups to raise awareness of the requirements for energy efficiency and sustainability.

State Energy Offices, Local Governments, and Associations. These entities within our region often provide us with information and project case studies. Professional and technical societies, including the American Institute of Architects (AIA) and the Association of Energy Engineers, frequently provide workshops and other sessions that can help us in our educational efforts. In return, we can use these forums to present our program overviews and case studies (such as an AIA forum at which information on GSA’s Design Excellence Program and the new Seattle Courthouse was presented).

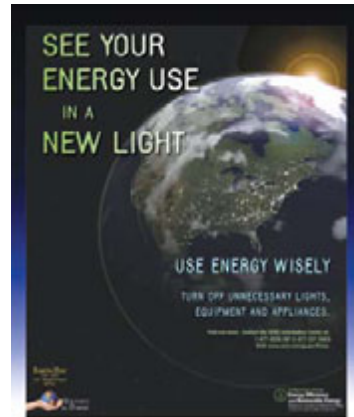
Utilities. Utilities such as Puget Sound Energy and Seattle City Light are key partners in our efficiency efforts. They frequently provide technical advice, electronic utility data, rebates, and incentives. We will track and use the many programs available to us as utility customers.

Employee and Tenant Awareness

To minimize environmental impact and meet our goals and objectives, our employees, customers, and tenants must make conscious choices daily. We all can increase efficiency through wise procurement choices such as ENERGY STAR and other energy-saving products. Additionally, our personal choices, such as turning off computers and desk lamps and accepting lighting controls and temperature set points, reduce energy use.

To support individuals on the continuum from awareness to action, we will:

- Develop outreach programs.
- Focus energy awareness efforts on Earth Day and during Energy Awareness Month.



Earth Day poster available from the Federal Energy Management Program

The REMT, along with staff and tenant representatives, will develop outreach programs for our employees and customers to promote an awareness and understanding of the objectives of our SEMP. Outreach efforts will include education, information, and training in multiple areas. Areas of outreach focus include:

- ENERGY STAR and other energy-efficient products
- Integration of sustainability in design and construction
- Use of renewable energy systems and procurement
- Facility operations focused on energy efficiency
- Informational and inspirational signage
- Incentives and motivational efforts.

We will use FEMP's promotional materials and guidance to provide informational and educational opportunities for employees, customers, and tenants.

See Appendix E for energy awareness strategies.

Awards, Recognition, and Incentives

We understand the value of recognizing achievement. It is a necessary and important activity and motivates us all to continue our efforts even when they become challenging or routine. We will use available venues and create new avenues to acknowledge energy-saving efforts, communicate progress, and determine customer satisfaction. Awards and recognition for staff, customers, architects and engineers, partners, and tenants will be a key part of our SEMP. In addition, we have created a model O&M contract, which will provide incentives to contractors to provide energy efficiency benefits as part of their O&M activities.

We will also participate in GSA's and DOE's annual energy awards. Our Region 10 has been recently honored with a Federal Energy Saver Showcase designation. The Oroville-Osoyoos Border Crossing Station in Oroville, Washington, is a showcase for saving energy and using sustainable practices and products.

(See Appendix E for information on awards.)



PIX 12701 Credit: GSA

Oroville-Osoyoos border crossing station in Oroville, Washington



Region 10 Awardees (from left) Roger Wright, John Jarosz, Carole Diamond, and Michael Okoro are honored in October 2003 for their work at the Edith Green/Wendell Wyatt federal building. Kit Meith, Regional Energy Coordinator (back row).

strategies, best practices, and tools

to successfully accomplish the goals set forth in our SEMP, we need the right resources for planning, implementation, and maintenance. The strategies, best practices, and tools that will help us accomplish our goals are available to us now. In fact, we use many of them already for projects that involve new construction, renovations, equipment replacement, retrofit projects, and building O&M. These resources help us increase energy efficiency and occupant satisfaction, reduce water consumption, support sustainability and renewable energy, and reduce utility costs.



PIX 13449 Credit: GSA

Photovoltaic installation at Wenatchee, Washington

The REMT will work with the Public Buildings Service to develop actions and an implementation schedule to meet our goals. (See Appendix B for the Goals, Resources, and Implementation Schedule.)

Life-Cycle Cost Analysis

Use of building LCC is mandated throughout E.O. 13123. We will continue to use and reinforce the use of LCC analysis to make effective, long-term business decisions about investments in energy-using systems. New construction, retrofit projects, and equipment replacement are areas in which we will use LCC. In addition, LCC is valuable in making decisions about non-energy-using materials (such as carpeting and wall treatments).

We will support the use of LCC in the following ways:

- Use LCC analysis for energy-using systems in all new construction, renovation, and retrofit projects.
- Follow the guidance developed in the LCC program used by the National Institute of Standards and Technology.
- Ensure that facility and procurement staff members are knowledgeable in the use of LCC.

For more information:

Building Life-Cycle Cost Software

http://www.eere.energy.gov/femp/information/download_blcc.cfm

Facility Energy Audits and Assessments

E.O. 13123 mandates that we audit 10% of our space each year. During the last 10 years, we have audited almost our entire inventory. We will continue to conduct energy audits, assessments, and surveys at a rate of 10% each year. Information we obtain will be used to identify the most cost-effective projects for implementation.

We will use audits and assessments to:

- Assign priorities to facilities that will receive audits on the basis of energy costs, upcoming renovations and equipment replacement opportunities, and the potential for emissions reductions.
- Use a variety of resources for audits, assessments, and surveys, such as FEMP, utilities, BPA, energy service companies (in conjunction with Energy Savings Performance Contracting), and private contractors.
- Encourage facility staff to conduct annual walk-through surveys to gain a greater understanding of their facilities and identify opportunities for more efficient operations and replacement of equipment.

For more information: Energy Services, Schedule 871 II

SAVEnergy Audits (FEMP)

http://www.eere.energy.gov/femp/services/assessments_savenergy.cfm

Project Funding and Financing

We will continue to use a variety of funding avenues for project financing. Our first step in the funding process will always be to identify available GSA internal funds. For new construction and large renovation projects, we will include the costs of sustainable design and commissioning in budget submissions. Energy and water efficiency projects, renewable energy, and other projects will require budget submission or may be combined with current construction or operations projects.

When internal funding is not available, and third-party financing appears to be the best alternative, we will encourage the use of project financing rather than delay the project.

To fulfill these objectives, we will:

- Identify the most appropriate funding option for each priority project (internal or external funding or a combination of both).
- Identify and consider the external financing options: energy savings performance contracting, utility energy savings contracting, and IAAs through BPA.
- Explore leveraging resources through partnerships. Consider rebate and incentives from utilities, other federal agencies such as BPA, solicitations for technology demonstration projects, and co-sponsorship of projects such as U.S./Canadian partnerships.

In the last 10 years, we have used alternative financing as well as internal funding for many projects. We have a solid foundation in use of energy savings performance contracting. Four projects have been awarded and others are being considered.

For more information:

Financing Mechanisms (FEMP)

<http://www.eere.energy.gov/femp/financing/mechanisms.cfm>

Energy-Efficient and Sustainable Procurement

We will continue to reinforce and expand our program to procure the most efficient and sustainable products during construction, renovation, equipment replacement, and building maintenance.

Equipment with the ENERGY STAR label will routinely be the equipment of choice. When that equipment is not available, we will select products that are in the top 25% efficiency. We will use the Environmentally Preferable Purchasing Guidelines for other purchases and the GSA Federal Supply Schedules for procuring sustainable and high efficiency products and energy services.



We will support these objectives in the following ways:

- Incorporate energy efficiency criteria into guidelines and specifications for all projects. Be consistent with use of ENERGY STAR, EPA Environmentally Preferable Purchasing, and EPA/DOE designated energy-efficiency products.
- Incorporate energy efficiency criteria consistent with ENERGY STAR and FEMP-designated products into product specification language developed for basic ordering agreements, blanket purchase agreements, architectural and engineering (A/E) services, and other purchasing procedures.

For more information:

ENERGY STAR Products
www.energystar.gov

EPA Environmentally Preferable Purchasing
www.epa.gov/oppt/epp/index.htm

FEMP Recommendations for Energy-Efficient Products
www.eere.energy.gov/femp/technologies/eeproducts.cfm

GSA Federal Supply Schedule for Energy Services
www.gsaelibrary.gsa.gov or www.gsa.gov/energyservices

Office of the Federal Environmental Executive
www.ofee.gov

Sustainable Building Design and Construction

Leading the way to sustainable design at federal facilities is an important goal for GSA Region 10. We embrace sustainable building design and “whole building” principles in which the interdependence of a building’s elements and systems is maximized to make it as sustainable and energy efficient as possible. Sustainable design recognizes the impact of every design choice (such as window placement and type of cooling system) on the natural and cultural resources of the local, regional, and global environments.



Credit: GSA

Architect's rendering of the U.S. Courthouse in Eugene, Oregon, under construction in 2005

When designing new construction and major renovations, we will use many available resources. These include the *Procurement of Architectural and Engineering Services for Sustainability*; *GSA Sustainable Design Guide*, the Facilities Standards for the Public Buildings Service, P100; *The Design Excellence Program Guide*; *Building a Legacy*; *Real Property Sustainable Development Guide*; *Best Practices Special Edition*, Fall 2002; *Whole Building Design Guide*; the LEED program of the US Green Building Council, and the Sustainable Design Studio.

The GSA Northwest/Arctic Region is currently seeking LEED certification on three buildings, two new and one existing, and one client agency is housed in leased space that is LEED certified. We have several buildings designated as Federal Energy Saver Showcases and six ENERGY STAR buildings. Four of our buildings have received national Design Excellence awards.

We will continue to support sustainable design and construction in the following ways:

- Educate asset managers, portfolio managers, project managers, facility staff, architects, engineers, designers, budget analysts, maintenance staff, and other key personnel about sustainable design principles, energy efficiency, and LCC.
- Submit budgets that include costs for sustainable design and construction; include commissioning, building modeling, and other critical elements.
- Determine beforehand the rating to be obtained for each new construction project (such as LEED [including level] or Federal Energy Saver Showcase).
- Hold design charrettes and include customers, project managers, maintenance staff, A/E team, designers, and others to identify requirements and discuss sustainability, commissioning, and optimized O&M.
- Ensure that the selection criteria for A/E firms and design/build firms include experience with energy efficiency, water conservation, use of LCC, and sustainable building design.
- Incorporate sustainable design criteria into requirements for all new construction and major renovation projects.
- Review design guide specifications and incorporate current sustainability guidance.
- Consider O&M during planning and design.
- Include building commissioning in all new construction and substantial renovation projects.

- Incorporate continuous commissioning and O&M planning in all new and renovation design specifications.
- Use software such as Building for Environmental and Economic Sustainability (BEES), Life Cycle Costing (LCC), DOE2, Energy 10, and other tools.
- Participate actively in the Federal Network for Sustainability, Sustainable Building Initiative to learn from other federal agencies and pass on our extensive knowledge.
- Continue to nominate projects and buildings for regional and national design, energy efficiency, and sustainability awards.

For more information:

Building for Environmental and Economic Sustainability
www.bfrel.nist.gov/oea/software/bees.html

Business Case for Sustainable Design in Federal Facilities
www.eere.energy.gov/femp/technologies/sustainable_federalfacilities.cfm

Child Care Center Design Guide
www.gsa.gov (Type in “Child Care Design” in search box.)
 Federal Network for Sustainability
www.federalsustainability.org

FEMP Interagency Sustainability Working Group
www.eere.energy.gov/femp/technologies/sustainable_workinggroup.cfm

GSA Publications List
www.wbdg.org/references/publications.php
Greening Federal Facilities Guide
www.eere.energy.gov/femp/technologies/sustainable_greening.cfm

Leadership in Energy and Environmental Design (U.S. Green Building Council)
www.usgbc.org

Procurement of Architectural and Engineering Services for Sustainability
www.eere.energy.gov/femp/program/procuring_services.cfm

Whole Building Design Guide
www.wbdg.org

Building and System Commissioning

GSA Region 10 is at the forefront of building commissioning in the federal government. Commissioning helps us achieve, validate, and document that our building performance and systems meet the design needs and requirements of GSA and our occupants. For example, we are using commissioning for the new Seattle Courthouse.

Because all building systems are integrated, a problem in one system or component can affect the operation and performance of other components. Identifying and eliminating problems are important for improved occupant comfort, energy savings, environmental conditions, system and equipment functioning, and building O&M.

To remain in the forefront of building commissioning, we will:

- Emphasize building commissioning in all five phases of projects: program, design, construction, acceptance, and post-acceptance/occupancy, including recommissioning and continuous commissioning.
- Use available tools such as commissioning guides, information on selection of independent commissioning authorities, commissioning specifications, and commissioning reports to define and continuously improve our knowledge of commissioning.

For more information:

Continuous Commissioning Guidebook for Federal Managers
www.eere.energy.gov/femp/operations_maintenance

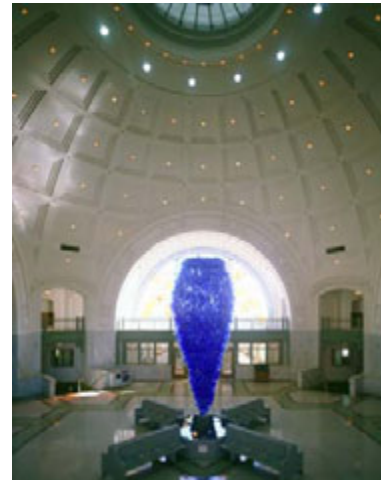
Greening Federal Facilities (Chapter 9.2—Building Commissioning)
www.eere.energy.gov/femp/technologies/sustainable_greening.cfm

Portland Energy Conservation, Inc. (PECI)—Commissioning and O&M Resources
www.peci.org/cx/index.html

Operations and Maintenance

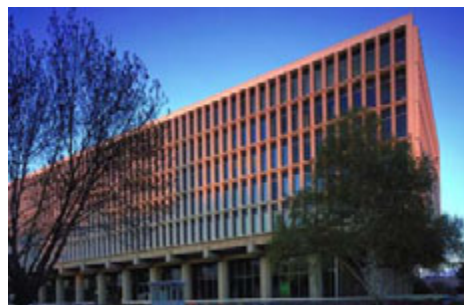
Operations and maintenance is one of the most cost-effective areas for ensuring reliability, safety, and energy efficiency. Good maintenance practices can generate substantial energy savings. Energy losses from steam, water and air leaks, uninsulated lines, and maladjusted or inoperable controls are often considerable. Improvements to facility maintenance programs can often be immediate and low cost.

To build on our excellent O&M program, we will:



Lobby of Tacoma Union Station,
Tacoma, Washington

PIX 13445 Credit: GSA



McClure Federal Building and Courthouse in
Boise, Idaho

PIX 13442 Credit: GSA

- Review and modify our regional O&M procedures and maintenance plans to reflect O&M best practices, focusing on energy efficiency and cost-effective O&M.
- Continue to educate maintenance personnel about equipment and how to optimize energy-consuming systems.
- Provide periodic training on building monitor and control systems and building control systems.
- Educate customers about comfort control and its impacts and costs.
- Budget for O&M training, continuous commissioning, and education.
- Continue to test and refine the new O&M contracts that include performance requirements and bonuses for contractors. Ensure that the performance criteria for O&M services include experience with energy management, continuous commissioning, and sustainable building practices.

For more information:

Building Operator Certification
www.theBOC.info

FEMP O&M Best Practices Guide
www.eere.energy.gov/femp/operations_maintenance

PECI O&M Best Practices Series
www.peci.org/om/index.html

Laboratory Facilities

We will continue to address the special requirements of our laboratory space to meet the federal goal of reducing energy consumption by 20% by 2005 and 25% by 2010, relative to 1990 consumption levels.

To continuously build on our laboratory experience and efficiency efforts, we will use guidance generated from the Labs for the 21st Century Program sponsored by EPA and DOE.

For more information:

Labs for the 21st Century
<http://www.labs21century.gov>

Highly Efficient Systems

As part of the federal government, GSA Region 10 is in a strong position to lead in the adoption of new and more efficient technologies, distributed energy resources, and other highly efficient systems. We will continue to identify opportunities to demonstrate the appropriate use of promising technologies and to show leadership by example.

To fulfill these objectives, we will:

- Install and use advanced metering and monitoring techniques.
- Identify opportunities for use of geothermal heat pumps, combined heat and power (CHP), biomass, micro turbines, fuel cells, and other underused technologies.
- Disseminate information within GSA and the federal sector on results of demonstration projects.

For more information:

FEMP Advanced Metering Program

www.eere.energy.gov/femp/technologies/om_advmetering.cfm

FEMP Distributed Energy Resource Program

www.eere.energy.gov/femp/technologies/derchp.cfm

FEMP Technology Demonstration Program

www.eere.energy.gov/femp/technologies/tech_demos.cfm

Greenhouse Gas Emissions Reduction

Greenhouse gas emissions could alter forests, crops, and water supplies. Agencies are directed under E.O. 13123 to “reduce their greenhouse gas emissions attributed to facility energy use by 30% by 2010 compared to such emissions levels in 1990.”

We will take advantage of all opportunities to reduce emissions through the following measures:

- Switch to less polluting fuels as opportunities are presented.
- Increase the use of renewable energy technologies such as PV, wind, and geothermal.
- Assign priorities to energy-saving projects on the basis of technologies used and potential savings to obtain the best emissions reductions.

For more information:

EPA Greenhouse Gas Emissions Information

yosemite.epa.gov/oar/globalwarming.nsf/content/Emissions.html:

Petroleum Use Reduction and Energy Security

We recognize that reducing our use of petroleum contributes to energy security. E.O. 13123, Section 205 addresses federal agencies in this regard. According to this executive order, each agency is to reduce the use of petroleum in its facilities by switching to natural gas, biofuels, or renewable energy; eliminating unnecessary fuel use; or using other appropriate methods.

We will employ the following strategies to reduce petroleum use and enhance energy security:

- Target facilities that use significant amounts of petroleum.
- Assign priorities to potential projects on the basis of LCC and potential emissions reductions.

For more information:

FEMP Renewable Energy Program

www.eere.energy.gov/femp/technologies/renewable_energy.cfm

Source Energy

GSA Region 10 will strive to reduce total energy use and associated greenhouse gas and other air emissions as measured at the source (such as at electric or coal power plants). We will undertake cost-effective projects, for which LCC analysis has verified cost-effectiveness, that result in decreasing source energy, even if site energy use (measured at the point of use) increases. In addition, projects that result in source energy reductions will contribute directly to GSA's performance in reaching greenhouse gas reduction goals.

We will undertake the following actions in support of these objectives:

- Adopt a self-generation strategy that supports the use of on-site generation and renewable energy by focusing on sites served by utilities that use fossil fuels.
- Follow guidelines to receive credits toward energy efficiency goals for cost-effective projects when source energy use declines (for example, purchasing green power or fuel switching).
- Purchase Renewable Energy Certificates.

For more information:

Purchasing Renewable Power (FEMP)

www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm

Source Energy Reduction Credit (toward energy efficiency goals)

www.eere.energy.gov/femp/pdfs/source_crediting.pdf

Purchasing Renewable Energy Certificates

GSA Energy Services Schedule 871 II

www.gsa.gov/energyservices



Wind turbine at Apeasay Organic orchard,
Hood River, Oregon

Courtesy Energy Trust of Oregon, Inc.

Renewable Energy

GSA Region 10 can be a leader in the use of renewable energy. By using renewable energy at our facilities, we can help advance the renewable energy market and preserve our precious natural resources. We can also contribute to the federal government's goal of striving to acquire 2.5% of its facilities' electricity from new renewable energy sources by the end of FY 2005.

Use of renewable energy is expanding at our facilities through targeted projects and energy purchases from renewable sources. In addition, we are supporting the DOE Million Solar Roofs Initiative, which challenges the government to install 20,000 solar energy systems at its facilities by 2010.



Photovoltaic panels at Wenatchee, Washington

PIX 13448 Credit: GSA

We will take the following actions to continue our contribution to renewable energy use:

- Use screening and analysis to identify facilities that will benefit from solar water and space heating, PV, wind, geothermal, or biomass-based systems.
- Purchase and install on-site renewable energy systems that pass screening analysis.
- Procure renewable power when sources are available from serving utilities or power marketing administrations (such as BPA and the Western Area Power Administration); strive for 100% at sites when possible.
- Procure Renewable Energy Certificates/Green Tags for sites when direct renewable power delivery is not available.
- Take advantage of technical assistance, utility programs, rebates, and other resources available from serving utilities or power marketing administration.

For more information:

FEMP Renewable Energy Program
www.eere.energy.gov/femp/technologies/renewable_energy.cfm

Purchasing Renewable Power (FEMP)
www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm

Purchasing Renewable Energy Certificates
GSA Energy Services Schedule 871 II
www.gsa.gov/energyservices

Water Conservation

E.O. 13123 calls on federal agencies to install all life-cycle, cost-effective projects with fewer than 10 years simple payback. To meet that objective, we will continue to implement water-saving measures.

We will perform the following activities to save water at our facilities:

- Implement FEMP Best Management Practices (BMPs) as appropriate (in 5% of facilities by 2005 and 15% of facilities by 2007).

- Establish a reliable baseline for regional water consumption.
- Review building operating plans and include water management and BMPs wherever applicable.
- Include water cost savings and sewage savings in LCC and alternatively financed projects (such as energy savings performance contracts and utility energy service contracts).
- Perform water studies via GSA Environmental Services Schedule 899.

For more information:

Water Efficiency Goals

www.eere.energy.gov/femp/technologies/water_goals.cfm

Best Water Management Practices

http://www.eere.energy.gov/femp/technologies/water_fedrequire.cfm

FEMP Water Conservation Program

www.eere.energy.gov/femp/technologies/water_efficiency.cfm

Guidance to Federal Agencies for Determining Baseline Water Usage

www.eere.energy.gov/femp/technologies/water_baseline.cfm

GSA Environmental Services Schedule 899

www.gsa.gov/environmental_services

Showcase Facilities

The GSA Northwest/Arctic Region is a proven leader in developing high performance facilities. We will strive to create ENERGY STAR and LEED-certified buildings and use whole building design in new construction and retrofits. These facilities should contain systems that represent some of the best applications of sustainability, energy efficiency, and renewable energy in the government.

To meet this objective we will:

- Assign priorities to high performance facilities on the basis of project quality, with special emphasis on sustainable design.
- Acquire management support and budget for resources to meet designations.
- Strive to designate several facilities each year.

For more information:

High Performance Buildings (DOE Office of Energy Efficiency and Renewable Energy)

www.eere.energy.gov/buildings/highperformance

EPA ENERGY STAR Buildings

www.energystar.gov (Go to Business Improvement.)

LEED Rating System (Leadership in Energy and Environmental Design--U.S. Green Building Council)

www.usgbc.org

Leased Space

Our goal is to be a leader in providing the most sustainable, comfortable, and energy-efficient leased space to our customers. We currently include many requirements related to these topics in our lease documents.

To increase our focus on efficient and sustainable leased space, we will:

- Work with agencies to acquire new leased space or renew leases to understand the provisions in the lease agreement that pertain to energy efficiency and sustainability.
- Budget appropriately for LEED certification for space that is undergoing significant renovations.

For more information:

Greening Federal Facilities (Chapter 9.4—Leased Buildings)
www.eere.energy.gov/femp/pdfs/29267-9.4.pdf

Acknowledgments

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appendix a

advisory board

Name	Representing
Standing Board Members:	
Management Advocate	GSA
PBS	GSA
FSS	GSA
FTS	GSA
GSA Energy Center of Expertise	GSA
DOE – local office	Federal Energy Management Program
Auxiliary Members:	
GSA Region	As invited
Public & Private Building Owners	As invited – Build to suit buildings; how they do their business; BOMA – building operations managers association
Utility	As invited – Utilities, BPA
Contractors	Building operations and maintenance contractors, vendors, and A/E firms
Major GSA Client	Tenants
➤ Steve Butterworth, NPS	
➤ Tim Scanlon, BPA	
➤ Advocate for GSA	

regional energy management team

Title	Topics and Issues
Management Advocate	Overall R10 perspective
Facilities Operations Support Branch Leader	Facility operations, maintenance, energy consumption
Regional Energy Coordinator	Energy, commissioning, sustainable design
Project Management Representative	Project management procedures and policy
Supervisory Asset Manager Representative	Service Centers and tenant awareness
Lead Electrical Engineer	Electrical design
Lead Mechanical Engineer	Mechanical design
O&M Representative	Operations & maintenance
Contracting Representative	Contracting
Architect/Designer	Architectural and interior design

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action plan

	Executive Order 13123 Topic Energy Management Plan	Resources	Target Dates
Regional Goal:	Develop the Strategic Energy Management Plan such that it supports the accomplishment of regional goals set forth in the Northwest/Arctic Business Plan.		
Responsible Office	Facilities Operations Support Branch		
Objective	Deliver superior workplace through optimized building operations and sustainable design principles. All associates incorporate SEMP objectives during decision-making process.		
Supporting Action 1	Establish the REMT <ol style="list-style-type: none"> 1. Name personnel 2. Define purpose of the REMT 3. Draft REMT Charter <ol style="list-style-type: none"> a. Develop an energy management program vision statement and develop vision statements for each member of the EM program. b. Obtain Division level signatures. 		May 15, 2005
Supporting Action 2	Develop an implementation based on the SEMP and the REMT Charter.		June 1, 2005
Supporting Action 3	Provide SEMP education to energy champions, project managers, and design teams.	See training and education objective	Ongoing
Supporting Action 4	Verify progress and course correction.		Annual
Tools	PBS Regional Business Plan GSA Strategic Plan GSA Performance Measure		

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	Executive Order 13123 Topic Facility Energy Audits (Sec. 402)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
R10 Strategic Objective	Use auditing process and results to make smart cost effective facility upgrades and modifications that will improve workspace and meet environmental goals and objectives.		
Responsible Office	Facilities Operations Support Branch		
Federal Goal	Audit 10% of facilities annually		
Supporting Action 1	<p>Generate database of prioritized facilities with year to be audited identified based on 10% per year cycle. Rank based on:</p> <ul style="list-style-type: none"> • Large square footage, heavy energy consuming facilities, and cost of energy • Facilities that have not undergone energy efficiency projects or recent renovations • Office and campus type facilities • Facilities with energy management systems • Facilities with energy champions. 		May 31, 2005
Supporting Action 2	To improve process efficiency and reduce expenditures, consider consolidating various regional assessments into a single facility audit, e.g., energy, water, safety, operations, and renovations.		July 15, 2005
Supporting Action 3	Submit budget annually for facility energy audits		April 20XX
Supporting Action 4	<p>Planned Audits for FY 2005:</p> <ol style="list-style-type: none"> 1. FBCT Anchorage ak0031aa 2. FBCT Juneau ak0013zz 3. New CT Seattle wa0102zz 4. JFB Seattle wa0101zz 5. TUS Tacoma wa7587zz 	Utility provided no- or low-cost audits and surveys DOE FEMP SAVEnergy audits ESPC and UESC projects include audits	FY 2005
Tools	DOE FEMP SavEnergy Program		

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	Executive Order 13123 Topic Energy Efficiency Improvements (Sec. 202)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Facilities Operations Support Branch		
Federal Goals	<ul style="list-style-type: none"> • 30% by 2005 • 35% by 2010 (Relative to 1985 baseline)		
R10 Strategic Objective	Reach beyond federal goals to provide fiscally smart, efficiently operated, sustainable office space.		
Supporting Action 1	Identify and prioritize projects based on value to customer, impact on environment, and cost effectiveness.	Energy project database integration	Ongoing
Supporting Action 2	Implement prioritized projects. FY 2005 Planned Projects: <ol style="list-style-type: none"> 1. Lighting for Warehouse 8, Auburn, WA. 2. Lighting for FBCT Anchorage parking garage. 3. Commissioning at JFB, Seattle, WA. 	<ul style="list-style-type: none"> • FEMP design and technical assistance, alternative finance support, and LCC analysis • ESPC and UESC 	FY 2005
Tools	<ul style="list-style-type: none"> • 1985 Building Trends spreadsheet • Financial tier information • FEMP services - design and technical assistance, alternative finance support, LCC analysis, building energy simulation modeling, DOE-2, Energy 10, SAVEnergy audits • ENERGY STAR products • Leadership in Energy & Environmental Design 		

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	Executive Order 13123 Topic Water Conservation (Sec. 207)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Implement water management plans and best management practices at sites <ul style="list-style-type: none"> • 30% of sites by 2006 • 50% of sites by 2008 • 80% of sites by 2010 		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	Establish water use in millions of gallons per year (MGY) for baseline year 2000.	http://www.eere.energy.gov/femp/technologies/water_baseline.cfm	
Supporting Action 2	Develop a water management plan and incorporate into facility planning process and operating plan.	http://www.eere.energy.gov/femp/technologies/water_fedrequire.cfm	
Supporting Action 3	Integrate water best management practices into current operating plans and put applicable O&M into practice.	Water management plans Best management practices	
Supporting Action 4	Identify water efficiency retrofit and replacement measures. Prioritize projects based on combined energy and water audits.	Energy audit prioritized list and audit recommendations Consider environmental impact, cost effectiveness and current projects.	
Tools	FEMP water efficiency improvement goal for federal agencies		

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	Executive Order 13123 Topic Sustainable Building Design (Sec. 403(d))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy coordinator with property development lead		
Federal Goals	<ul style="list-style-type: none"> • GSA, along with DOD, DOE, and EPA, develop sustainable design principles. • Apply principles to design and construction of new facilities. 		
R10 Strategic Objective	<p>Region 10 will lead by example and integrate sustainable principles in the design and construction of new facilities and major renovation projects.</p> <ul style="list-style-type: none"> • Design all new construction to meet LEED Silver rating or better. 		
Supporting Action 1	Incorporate sustainable design criteria into requirements for new construction and renovation projects. Include commissioning and recommissioning requirements.	Include sustainable experience and “sustainable design studio” as requirements for A/E contracting.	
Supporting Action 2	Implement new procurement guidelines that specify the use of sustainable materials to be used in new construction and retrofit projects.		
Supporting Action 3	Implement sustainable projects.	Greening charette	
Supporting Action 4	Track costs to show sustainable design can be done within budget.		
Tools	<ul style="list-style-type: none"> • Sustainable development guide • Whole Building Design Guide • “Procuring Low Energy Design and Consulting Services” • Sustainable working group • FEMP guidance and criteria (LEED) • GSA IDIQ (commissioning) • FEMP staff with experience (commissioning) 		

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	Executive Order 13123 Topic Renewable Energy (Sec. 204)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Expand the use of renewable energy within facilities via projects and by purchasing from renewable energy sources.		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	<ul style="list-style-type: none"> • Identify sites for renewable energy procurement. • Renewable energy certificates count toward the federal energy goal. 	Energy Center RE Purchasing Service GSA Schedule 871 II	
Supporting Action 2	Identify facilities that will benefit from solar water heating and PV.	GSA Schedule 84	
Supporting Action 3	Identify locations where green energy is available for purchase (GSA contract).		
Supporting Action 4	Identify locations where wind energy is viable.		
Supporting Action 5	Educate customers on the value of supporting RE and negotiate premiums, so that they are dropped once the RE source stands on its own.		
Supporting Action 6	FY 2005 Planned Projects: 1. Renewable energy, 10-kW PV for FBCT, Boise, ID.		
Tools	<ul style="list-style-type: none"> • GSA Schedule 871 II for online purchase of Renewable Energy Certificates <ul style="list-style-type: none"> - www.gsa.gov/advantage • PBS Energy Center can solicit proposals for purchase of Renewable Certificates • Solar equipment purchases via e-buy, Schedule 84 • FRESA screenings • FEMP Renewable Energy Workshop • Guidebook for purchasing renewable energy 		

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	Executive Order 13129 Topic Energy Star Products (Sec. 403 (b))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Region-wide with customer operations division lead		
Federal Goal	Select ENERGY STAR and other energy-efficient products when acquiring energy-using products. Select products in upper 25% of energy efficiency.		
R10 Strategic Objective	Provide customer satisfaction and save money for the taxpayers. <ul style="list-style-type: none"> • Specify ENERGY STAR and other energy-efficient products when acquiring energy-using products. • Specify products in upper 25% of energy efficiency. 		
Supporting Action 1	Include ENERGY STAR new procurement guidelines for purchase of any new equipment.		
Supporting Action 2	Implement ENERGY STAR certification.		
Tools	FEMP "Product Energy Efficient Recommendations"		

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	Executive Order 13123 Topic Green House Gas Emissions (Sec. 202)	Resources	Target Dates
Regional Goal	<ul style="list-style-type: none"> ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Property Development		
Federal Goal	By 2010, reduce greenhouse gas emissions by 30% relative to the 1990 baseline.		
R10 Strategic Objective	Deliver smart, cost-effective facility upgrades and modifications that will reduce greenhouse gas emissions.		
Supporting Action 1	Determine the 1990 baseline.		
Supporting Action 2	Prioritize identified energy efficiency projects to maximize emissions reductions based on fuel type and potential savings.	Energy audit results and project prioritization list	
Supporting Action 3	Implement projects.		
Tools	FEMP Emissions Calculation Guidance		

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	Executive Order 13123 Topic Petroleum Reduction (Sec. 205)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Through LCC measures, each agency shall reduce use of petroleum in facilities by eliminating unnecessary consumption and switching to natural gas or renewable energy sources.		
R10 Strategic Objective	Reduce use of petroleum by eliminating unnecessary consumption and switching to natural gas or renewable energy sources.		
Supporting Action 1	Identify candidate facilities to reduce use of petroleum, such as switching fuels and using renewable technologies. Prioritize projects based on LCC and potential emissions reductions.		
Supporting Action 2	Implement projects that are LCC effective and have the greatest potential for emissions reduction.		
Tools			

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	Executive Order 13123 Topic Source Energy (Sec. 206)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Undertake LCC-effective projects in which source energy decreases.		
R10 Strategic Objective	Deliver smart, cost-effective facility upgrades and modifications that will reduce source energy use.		
Supporting Action 1	Identify and prioritize LCC projects that result in a decrease in source energy use.	Decreased source energy is credited toward energy reduction even if site energy increases.	
Supporting Action 2	Implement LCC projects that reduce source energy use.		
Tools	BLCC software and training		

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	Executive Order 13123 Topic Showcase Facilities (Sec 406(e))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy coordinator with property development lead		
Federal Goal	Designate exemplary facilities with significant access and exposure.		
R10 Strategic Objective	Same as federal goal		
Supporting Action 1	Prioritize new construction and major renovation projects.		
Supporting Action 2	Initiate a “super showcase facility” or a “super energy star.”		
Supporting Action 3	Nominate showcase projects for awards.		
Tools	FEMP guidance and criteria		

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	Executive Order 13123 Topic Life Cycle Cost Analysis (Sec. 401)	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Property Development		
Federal Goal	Use LCC analysis and bundle projects.		
R10 Strategic Objective	Use LCC analysis and findings for decision making on all new construction and renovation projects.		
Supporting Action 1	Provide LCC training for engineers and architects.		
Supporting Action 2	Use LCC analysis for all projects.		
Supporting Action 3	Prioritize and implement projects based on LCC.		
Tools	BLCC software and training		

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	Executive Order 13123 Topic Financing (Sec. 403 (a))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Facilities Operations Support Branch		
Federal Goal	Maximize use of alternative financing mechanisms.		
R10 Strategic Objective	Use alternative financing mechanisms where project budget is inadequate to accomplish LCC effective energy efficiency projects.		
Supporting Action 1	Energy team members attend ESPC and utility financing workshops as needed for project implementation.	DOE FEMP ESPC and UESC workshops	
Supporting Action 2	Identify all funding sources, including appropriations and financing, and use the most suitable funding source based on project conditions.	DOE FEMP alternative financing support	
Tools	<ul style="list-style-type: none"> • FEMP alternative financing workshops • FEMP "How to Choose" guidance • GSA "Procuring Energy Management Services with the Utility AWC" 		

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	Executive Order 13123 Topic Training & Education 9Sec. 406 (d))	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Agencies shall ensure appropriate personnel receive training.		
R10 Strategic Objective	Provide training and education to all staff, contractors, and customers to ensure facilities are designed, constructed, renovated, operated, and occupied sustainably.		
Supporting Action 1	Develop and implement training plan to introduce the SEMP to staff, contractors, and customers.		
Supporting Action 2	Provide training and education to the REMT: <ul style="list-style-type: none"> • CO and Legal: ESPC and UESC workshops • Asset and property managers: BLCC, RE, sustainable design, ESPC, and UESC workshops etc. • Project managers, Engineers & Architects BLCC, RE, sustainable design, ESPC & UESC workshops etc. • O&M Staff: O&M workshop, ESPC and UESC workshops when applicable to their site 	DOE FEMP workshops and conferences	
Supporting Action 3	Meet with O&M and janitorial contractors to implement energy efficiency performance requirements, discuss progress and improvements.		
Tools	FEMP training catalog		

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	Executive Order 13129 Topic Energy Awareness	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
R10 Strategic Objective	Develop and implement an energy awareness program that results in consistent reduction in energy use due to staff and customer choices.		
Supporting Action 1	Develop a regional awareness plan with involvement across all divisions and include input from contractors and customers.		
Supporting Action 2	Educate: schedule awareness sessions with management analysis review system (MARS) reviews at property management offices.		
Supporting Action 3	Celebrate accomplishments: recognize efforts and accomplishments: <ul style="list-style-type: none"> • Nominate individuals and groups for the Region 10 awards. • Develop a fact sheet of accomplishments like cogeneration, PV, fuel cells, micro turbines. • Build a portable display for training and presentations. • Develop a flow chart with communications interfaces. Delineate a design from operations, fleet, asset managers, and other groups. 		
Tools	FEMP You Have the Power campaign resources		

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	Executive Order 13123 Topic FLEET	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	FLEET		
Federal Goal			
R10 Strategic Objective	Reduce our impact on the environment through thoughtful implementation of fleet management. Purchase quality fuel-efficient vehicles.		
Supporting Action 1	Develop a mobility plan that includes staff education.		
Supporting Action 2	Make smart leasing and purchasing choices based on environmental requirements and impacts.		
Supporting Action 3	Use alternative fuels and alternative fuel vehicles where possible: <ul style="list-style-type: none"> • LPG • CNG • Biodiesel • Ethanol • Hybrid vehicles 		
Supporting Action 4	Incorporate the use of recycled carpeting, recycled paint, solar power, solar lighting in our Fleet Center.		Complete
Supporting Action 5	Reuse and recycle fleet related products and materials: <ul style="list-style-type: none"> • Re-refined oil • Recycled anti-freeze • Retread tires • Remove mercury switches from disposal vehicles prior to sale. 		Ongoing
Tools			

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	Executive Order 13123 Topic Security	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team		
R10 Strategic Objective	Enhance facility and energy security through thoughtfully designed, constructed, renovated, operated and occupied facilities. Use site generation where necessary and renewable generation where applicable.		
Supporting Action 1	Use standby generators for load shedding.		
Supporting Action 2	Encourage on-site renewables.		
Tools			

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	Executive Order 13129 Topic GSA Scorecard	Resources	Target Dates
Regional Goals	<ul style="list-style-type: none"> ➤ Provide best value for customer agencies and the taxpayers. ➤ Achieve responsible asset management. ➤ Operate efficiently and effectively. ➤ Carry out social, environmental, and other responsibilities as a federal government agency. 		
Responsible Office	Regional energy management team with regional energy coordinator lead		
Federal Goal	Each agency shall submit annual reports and be given an annual scorecard.		
R10 Strategic Objective	Meet or exceed the requirements of the Energy Policy Act and the various executive orders addressed in the SEMP.		
Supporting Action 1	Train staff in the use of the GSA reporting system.		
Tools			

appendix C

fy 2005 federal agency energy scorecard

Department/Agency Name	Contact Name and Phone		
Name of Senior Energy Official	Signature of Senior Energy Official		
Did your agency . . .	Yes	No	Anticipated Submittal Date
1. Submit its FY 2005 energy report to OMB and DOE by January 1, 2006 (Sec. 303)?			
2. Submit a FY 2006 Implementation Plan by January 1, 2006 (Sec. 302)?			
3. Implement or continue to use renewable energy projects at federal installations or facilitate the siting of renewable generation on federal land in FY 2005 (Sec. 204)? (Report all self-generated renewable energy from projects installed after 1990; refer to Table 1-7 on the Energy Management Data Report.)			If yes, how many projects and how much energy generated? (Specify unit: MWh or MMBtu) Solar _____ Wind _____ Thermal ¹ _____ Biomass _____ Other RE _____
4. Purchase energy generated from new renewable energy sources in FY 2005 (Sec. 204)? ²			If yes, how much: _____ MWH or _____ MMBtu
5. Invest direct FY 2005 appropriations in projects that contribute to the goals of the order (Sec. 301)?			If yes, how much: \$ _____
6. Specifically request funding necessary to achieve the goals of the order in its FY 2007 budget request to OMB (Sec. 301)? (Refer to OMB Circular A-11, Section 25.5, Table 2.)			If yes, how much: \$ _____
7. Perform energy audits of 10% of its facility space during the fiscal year (Sec. 402)?			What percentage of facility space was audited during the FY? _____% How much facility space has been audited since 1992? _____%
8. Issue to private sector energy service companies (ESCOs) any energy savings performance contract (ESPC) task orders (Sec. 403(a))? (Refer to Table 2-2 on the Energy Management Data Report.)			How many? _____ Annual savings (MMBtu): _____ Total investment value: ³ \$ _____ Cumulative guaranteed cost savings: \$ _____ Contracts award value: \$ _____
9. Issue any utility energy services contract (UESC) task orders (Sec. 403(a))? (Refer to Table 2-3 on the Energy Management Data Report.)			How many? _____ Annual savings (MMBtu): _____ Total investment value: ³ \$ _____ Cumulative cost savings: \$ _____ Contracts award value: \$ _____

Did your agency . . .	Yes	No	Anticipated Submittal Date
10. Incorporate energy efficiency requirements into relevant acquisitions (Sec. 403(b)(3))?			
11. Adopt and apply the sustainable design principles (e.g., Whole Building Design Guide, Leadership in Energy and Environmental Design (LEED)) to the siting, design, and construction of new facilities or major (budget line item) renovations begun in FY 2005 (Sec. 403(d))?			Number of new building design/construction projects in FY 2005: _____ Number of these projects that can or will be certified under LEED: _____
12. Provide training to appropriate personnel ⁴ on energy management (Sec. 406(d))?			Number of appropriate personnel trained: _____ Total number of appropriate personnel: _____
13. Implement any additional management tools (Sec. 406)?			Check all that apply: Awards: _____ Performance Evaluations: _____ Showcase Facilities: _____ Number of Showcase Facilities designated in fiscal year: _____
14. Establish water management plans (WMPs) and implement at least 4 best management practices (BMPs) in at least 10% of agency facilities (Sec. 207,503(f))?			Number of facilities with WMPs and 4 BMPs: _____ Number of facilities in agency inventory: _____

NOTE: Provide additional information if a “No” reply is used for any of the questions above.

Please enter data from annual energy report pertinent to performance toward the goals of Executive Order 13123	Base Year	Previous Year (2004)	Current Year (2005)	% Change (Current vs. Base)
15. Site Energy Efficiency Improvement Goals (Sec. 202). 1985 Base Year	Btu/ft ²	Btu/ft ²	Btu/ft ²	%
16. Source Energy Use (Sec. 206). 1985 Base Year	BBtu	BBtu	BBtu	%
17. Industrial/Energy Intensive Facilities Goals (Sec. 203). 1990 Base Year	Btu/unit	Btu/unit	Btu/unit	%
18. Water Conservation Goal (Sec. 207). 2000 Base Year	MGal	N/A	MGal	%
19. Renewable Energy (Sec. 204) used from self-generation and RE purchases	N/A	BBtu	BBtu	N/A

Abbreviation Key:

- Btu/Ft² = British thermal units per gross square foot
- Btu/unit = British thermal units per unit of productivity
(or gross square foot when such a unit is inappropriate or unavailable)
- MGal = Million gallons
- MMBtu = Million British Thermal Units
- BBtu = Billion British Thermal Units
- RE = Renewable energy
- N/A = Not applicable

¹ Examples are geothermal, solar thermal, and geothermal heat pumps. Thermal energy from geothermal heat pumps should be determined as follows: Thermal energy = Total geothermal heat transferred – electrical energy used.

² “New” renewable energy means sources developed after 1990.

³ Investment value includes design, materials, labor, overhead, and profit, but excludes contractor’s financing costs and government’s administration costs. Using investment value allows comparison with other traditional execution methods such as appropriated and working capital funded projects

⁴ Appropriate personnel include the agency energy management team as well as federal employees and on-site contractors who are energy or facility managers, operations and maintenance workers, design personnel, procurement and budget staff, and legal counsel.

appendix d

training plan

The GSA Region 10 multiyear training plan will be developed by the REMT and updated periodically. It will include training scenarios for different positions.

The objective of the training plan is to educate staff and operations and maintenance personnel to be knowledgeable about and motivated toward energy efficiency and sustainability. It will be GSA Region 10 policy to support associates who wish to become certified energy managers, LEED-accredited professionals, or active members of the Association of Energy Engineers.

Possible training events:

Green-Build Expo (annual)
DOE Energy Conference (annual Energy20xx) and workshops
AEE Certified Energy Manager training
LEED Accredited Professionals training

appendix e

energy awareness strategies

TheREC will lead GSA Region 10's energy awareness campaigns, along with the REMT, tenant agencies, maintenance contractors, and others as necessary. Below is a sample template to help develop energy awareness strategies.

Energy Awareness Campaign Strategy

Ten to thirty percent of energy consumption can be saved through employee choices. In energy-saving campaigns, involve employees at both GSA and tenant facilities. Educate, motivate, and involve individuals to help them consciously choose to reduce energy, recycle, commute by carpooling or using alternate ways to get to work, and elect other energy-saving options.

Develop a plan to be used throughout the region. Develop training to educate on the plan.

- Daily work activities
- Fleet use
- Procurement choices.

Determine water, energy, recyclable materials, and commuting footprints according to

- Work groups
- Facility types
- Job types.

Calculate impact based on equipment used, lights, hours of business, drive to work, and so forth. Derive a baseline for the group in Btu/day/person.

Create incentives such as competition between groups to reduce the baseline in Btu/day/person.

- Reward the lowest baseline.
- Reward the biggest improvement over time.
- Reward maintenance of low Btu/day/person (this would mean points for taking the bus, walking, and carpooling, and for turning off lights and equipment).

Recognize achievements with awards and celebrations.

- Acknowledge architectural and engineering staff and GSA staff on great projects.
- Show status and results of conscious efforts. Use case studies, newsletters, an annual open house, and other means to show results of conscious efforts. Graphics illustrating baseline, current status, and targets show results at a glance.

appendix f resources

Guidance

Advanced Utility Metering

http://www.eere.energy.gov/femp/technologies/om_advmetering.cfm

Agency Scorecards: See Appendix C and visit the FEMP Web site at

<http://www.eere.energy.gov/femp/about/scorecards.cfm>.

Buying Energy-Efficient Products

<http://www.eere.energy.gov/femp/technologies/eeproducts.cfm>

Continuous Commissioning Guidebook for Federal Managers

http://www.eere.energy.gov/femp/operations_maintenance

Energy Service Schedule 871 II

<http://www.gsa.gov/energyservices>

ENERGY STAR[®] Buildings Web Site

<http://www.energystar.gov>

Environmental Services Schedule 899

<http://www.gsa.gov/environmentalservices>

Federal Executive Orders

http://www.archives.gov/federal_register/executive_orders/disposition_tables.html

Federal Legislation, Executive Orders, and Other Requirements

<http://www.eere.energy.gov/femp/about/legislation.cfm>

Green Building: Project Planning and Cost Estimating

<http://www.rsmeans.com/bookstore>

Greening Federal Facilities Guide

http://www.eere.energy.gov/femp/technologies/sustainable_greening.cfm

Green Power Procurement Guidance

http://www.eere.energy.gov/femp/technologies/renewable_purchasepower.cfm

O&M Best Practices Guide

http://www.eere.energy.gov/femp/operations_maintenance

Leadership in Energy and Environmental Design (LEED)

http://www.usgbc.org/leed/leed_main.asp

P100 – Facilities Standards for the Public Buildings Service

<http://www.wbdg.org>

Super Energy Savings Performance Contracting

<http://www.eere.energy.gov/femp/financing/superespcs.cfm>

Utility Energy Services Contracts Enabling Documents

<http://www.eere.energy.gov/femp/pdfs/28792.pdf>

Whole Building Design Guide

<http://www.wbdg.org>

Software Tools

Building Life-Cycle Cost (BLCC)

http://www.eere.energy.gov/femp/information/download_software.cfm

DOE-2

http://www.eere.energy.gov/buildings/tools_directory/software/doe-2.htm

Energy 10

http://www.eere.energy.gov/buildings/tools_directory/software/energy10.htm

Federal Renewable Energy Screening Assistant (FRESA)

http://www.eere.energy.gov/femp/information/download_software.cfm

Watergy

http://www.eere.energy.gov/femp/information/download_software.cfm



Smarter Solutions

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