

**DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY EFFICIENCY AND RENEWABLE ENERGY
ENERGY CONSERVATION
(Tabular Dollars in Thousands, Narrative in Whole Dollars)**

OFFICE OF FEDERAL ENERGY MANAGEMENT PROGRAMS

PROGRAM MISSION

Mission

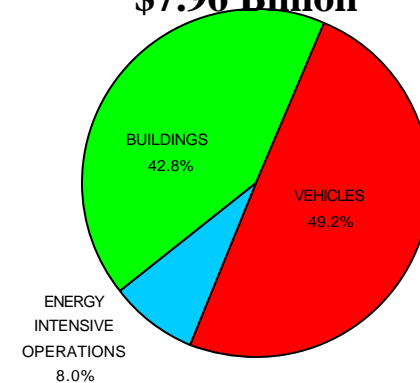
The Office of Federal Energy Management Programs (FEMP) reduces the cost and environmental impact of the Federal government by advancing energy efficiency and water conservation, promoting the use of renewable energy, and assisting federal facilities in managing utility costs and operations, including those of the Department of Energy.

Strategic Context

As the Nation's largest single energy consumer, the Federal government can lead the nation in becoming a cleaner, more efficient energy consumer. In 1999, the Federal government spent nearly \$8 billion to provide energy to its buildings, vehicles, and operations. Over 40 percent of the government's energy bill is spent on heating, cooling, and powering its 500,000 buildings.

Legislation dating back to 1975, as well as executive orders issued under Presidents Bush and Clinton, recognize that numerous opportunities exist for improved energy management within the Federal government. Most recently, Executive Order 13123, issued in June 1999, set new requirements for energy efficiency, renewable power and water usage, and greenhouse gas generation within the Federal sector. By 2010, if the goals of the Order are achieved, resulting energy savings are expected to save taxpayers over \$750 million a year and reduce annual greenhouse gas emissions by an amount equal to 2.4 million metric tons of carbon – the equivalent of taking 1.7 million cars off the road. EERE's Office of Federal Energy Management Programs helps agencies reach these goals

**Annual Federal Energy Costs:
\$7.96 Billion**



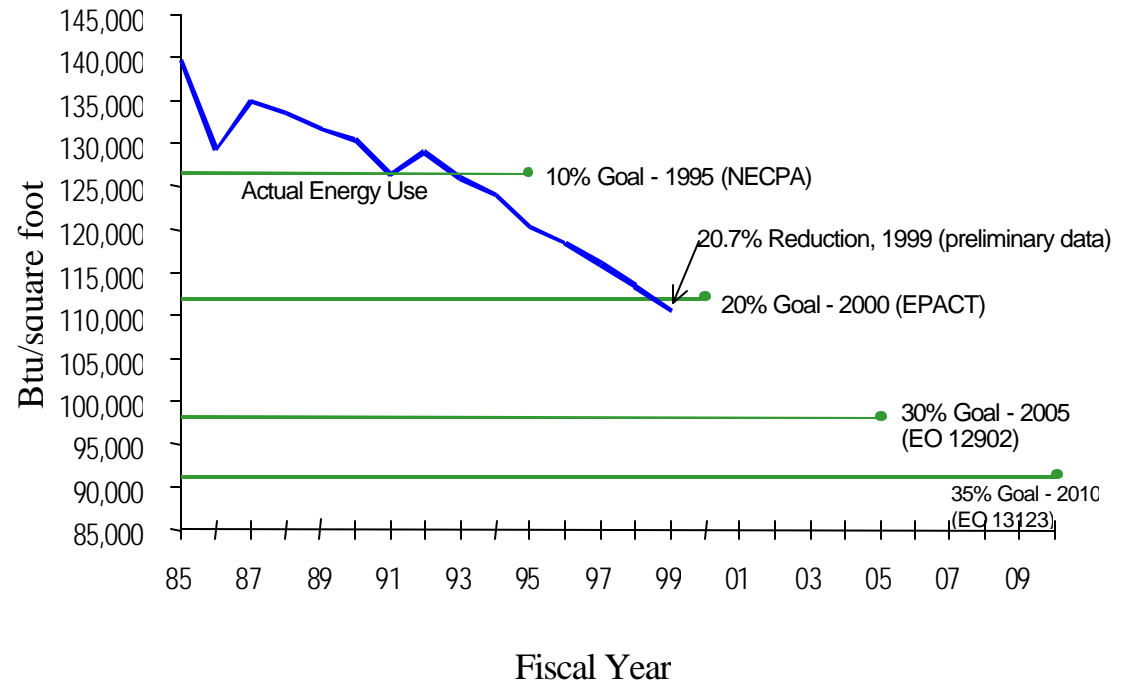
and thereby save taxpayer dollars. These efforts to improve energy management in the Federal sector also help to expand markets for renewable technologies, reduce air pollution, and serve as powerful examples to American businesses and consumers.

Improved Federal energy management has contributed to a reduction in building energy intensity of almost 21 percent since 1985 and a 19.5 percent reduction in carbon emissions relative to 1990 levels. In 1999 alone, the Federal government reduced its annual energy bill by over \$800 million as a result of projects implemented since

1985. While this progress is commendable, significant opportunities remain to further reduce the Federal government's energy usage in its buildings, fleets, and operations.

The Federal government can make substantial progress toward reducing its energy consumption by expanding its use of alternative financing vehicles to fund energy improvements; increasing the procurement of energy efficient technologies; constructing energy efficient buildings; properly operating and maintaining existing facilities; improving load management; and using clean energy technologies. In addition, the Federal government can help electric system reliability by managing its utility demand and encouraging on-site generation with distributed energy technologies including renewable energy technologies, microturbines, and fuel cells.

Building Energy Reduction Goals



Strategic Approach

Through alternative financing vehicles, technical assistance, and outreach campaigns, FEMP helps Federal customers address their energy management needs. FEMP aids in the design and construction of energy efficient buildings; effective operation and maintenance of existing facilities; major retrofits; purchase of energy efficient products; and, utility and load management. FEMP leverages both Federal and private resources to provide technical and financial assistance to Federal agencies.

Recognizing the need for agencies to provide resources to invest in energy management activities, a \$1 million budget request to support the development of cost effective energy projects and to initiate model programs for energy management at DOE sites is made under the Energy and Water Development appropriations account.

Goals and Benefits

- Reduce the Federal government's energy use in its buildings, including industrial and laboratory facilities.
- Increase use of renewable energy in Federal facilities.
- Realize cost, greenhouse gas, and reliability benefits from improvements in energy efficiency and renewable energy.

DEPARTMENT OF ENERGY
 FY 2002 CONGRESSIONAL BUDGET REQUEST
 ENERGY CONSERVATION
 (Dollars in Thousands)

FEDERAL ENERGY MANAGEMENT PROGRAM

PROGRAM FUNDING PROFILE

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	Program Change Request vs. FY 2001	
				Dollar	Percent
Program Activities, Operating Expenses	\$ 20,731	\$ 21,227	\$ 8,900	\$ -12,327	-58.1%
Program Direction, Operating Expenses	\$ 3,187	\$ 4,434	\$ 4,400	\$ -34	-0.8%
TOTAL	\$ 23,918	\$ 25,661	\$ 13,300	\$ -12,361	-48.2%
Summary					
Operating Expenses	\$ 23,918	\$ 25,661	\$ 13,300	\$ -12,361	-48.2%
Total Program	\$ 23,918	\$25,661 ^a	\$ 13,300	\$ -12,361	-48.2%
Staffing (FTEs)					
HQ FTEs	20	32	27		
Field FTEs	0	5 ^b	6		
Total FTEs	20	37	33		

Authorizations:

P.L. 94-163, Energy Policy and Conservation Act

P.L. 94-385, Energy Conservation and Production Act

P.L. 95-619, National Energy Conservation Policy Act

P.L. 100-615, Federal Management Improvement Act

P.L. 102-486, Energy Policy Act

^{a/} Reflects adjustment of \$-57,000 for Omnibus Rescission, P.L. 106-554.

^{b/} These are the number of estimated limited appointment personnel to be paid from reimbursed funds, authorized for FEMP's use by Congress in P.L. 105-277.

DEPARTMENT OF ENERGY
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FEDERAL ENERGY MANAGEMENT PROGRAM

SUMMARY OF CHANGES

	FY 2002 Request
FY 2001 Comparable	\$ 25,661
Non-Discretionary	
- Increase for Federal Pay Raise and Locality Pay	147
- Increase for Federal Personnel Transit Subsidy	6
	\$ 25,814
<u>Federal Energy Management Program Activities:</u>	
- Project Financing - Reduce project management support to agencies for projects implemented through energy savings performance contracts and utility energy service contracts. Discontinue support for Special Project State Grant Program	-5,967
- Technical Guidance and Assistance - Reduce funds to support audits, design and implementation assistance for general and renewable projects, training, analytical tools, and communication activities. Discontinue support for Special Project State Grant Program.	-4,896
- Planning, Reporting, and Evaluation - Reduce funds to support program reporting and outreach activities. Discontinue support for Special Project State Grant Program.	-1,437

- Technical/Program Management Support - Reduce support services for project financing, technical assistance, and planning, reporting, and evaluation program efforts.	-27
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Program Direction:

- Program Direction - Savings from reduced FTEs are offset by increases for personnel pay raise and management support services need for limited appointment personnel.	-187
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FY 2002 Congressional Budget Request	<u>\$ 13,300</u>
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DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY CONSERVATION
(Dollars in Thousands)

FEDERAL ENERGY MANAGEMENT PROGRAM

I. Mission Supporting Goals and Objectives

Mission

The Federal Energy Management Program (FEMP) reduces the cost and environmental impact of the Federal government by advancing energy efficiency and water conservation, promoting the use of renewable energy, and managing utility costs in federal buildings, facilities, and operations.

Goals and Benefits

The Federal Energy Management Program provides project-specific design assistance, energy audits, training, and technical information to help agencies implement energy efficiency, water conservation, and renewable energy technology projects. The program issues technical information including Federal Technology Alerts and Product Energy Efficiency Recommendations to help agencies make smarter energy investments. FEMP also assists agencies in meeting annual energy reporting requirements to Congress and the President, and disseminates educational information through its web site, newsletter, and other guidance materials.

FEMP helps Federal agencies use Energy Savings Performance Contracts (ESPC) and utility energy savings contracts (UESC) to finance energy saving improvements at no net cost to taxpayers. FEMP developed and now manages six regional and three technology specific Super ESPCs that enable agencies to implement energy efficiency and renewable projects nationwide more expeditiously.

Goals and Performance Measures:

- In 2002, achieve \$30 million in private sector investments in Federal facilities via FEMP Super Energy Savings Performance Contracts.
- Assist Federal agencies in achieving energy efficiency and renewable energy goals as required by legislation and other mandates.

Benefits:

FEMP generates energy and taxpayer savings as well as environmental and reliability benefits.

Federal Energy Management Program Accomplishments

FY2000 Accomplishments:

- Developed solicitation requirements for one nationwide technology Super-Energy Savings Performance Contract (ESPC) for use by all agencies, bringing the total number of technology specific Super-ESPCs to four.
- Continued efforts to reduce the use of energy in Federal buildings and report the results achieved through the end of FY 1998, towards the goal of achieving a 20 percent reduction by the end of FY 2000 as compared to 1985 energy use. Data indicate that agencies achieved over a 20 percent reduction at the end of FY 1999.

FY 2001 Ongoing Accomplishments:

- Complete one nationwide technology Super Energy Savings Performance Contract (ESPC) for use by all agencies, bringing the total number of technology specific Super ESPCs to four.
- Continue efforts to reduce the use of energy in Federal buildings and report the results achieved through the end of FY 1999, towards the goal of achieving a 22 percent reduction by the end of FY 2001 as compared to 1985 energy use.

FY 2002 Planned Accomplishments:

- Support the Federal goal of obtaining 2.5 percent of Federal facilities' electricity needs from renewable energy sources by 2005.
- Continue efforts to reduce the use of energy in Federal buildings and report the results achieved through the end of FY 2000, towards the goal of achieving a 24 percent reduction by the end of FY 2002 as compared to 1985 energy use.

II. A. Funding Table: FEDERAL ENERGY MANAGEMENT PROGRAM

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Project Financing	\$ 9,404	\$ 9,667	\$ 3,700	\$ -5,967	-61.7%
Technical Guidance and Assistance	\$ 7,241	\$ 7,896	\$ 3,000	\$ -4,896	-62.0%
Planning, Reporting, and Evaluation	\$ 3,295	\$ 2,777	\$ 1,340	\$ -1,437	-51.7%
Technical/Program Management Support	\$ 791	\$ 887	\$ 860	\$ -27	-3.0%
Program Direction	\$ 3,187	\$ 4,434	\$ 4,400	\$ -34	-0.8%
Total, Federal Energy Management Program	\$ 23,918	\$ 25,661	\$ 13,300	\$ -12,361	-48.2%

II. B. Laboratory and Facility Funding Table: FEDERAL ENERGY MANAGEMENT PROGRAM

	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Lawrence Berkeley National Laboratory	\$ 2,500	\$ 2,700	\$ 1,100	\$ -1,600	-59.3%
National Renewable Energy Laboratory	\$ 5,800	\$ 6,200	\$ 2,600	\$ -3,600	-58.1%
Oak Ridge National Laboratory	\$ 2,800	\$ 3,600	\$ 1,500	\$ -2,100	-58.3%
Pacific Northwest National Laboratory	\$ 3,800	\$ 3,300	\$ 1,400	\$ -1,900	-57.6%
Sandia National Laboratory	\$ 280	\$ 500	\$ 200	\$ -300	-60.0%
All Others	\$ 8,738	\$ 9,361	\$ 6,500	\$ -2,861	-30.6%
Total, Federal Energy Management Program	\$ 23,918	\$ 25,661	\$ 13,300	\$ -12,361	-48.2%

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM

Program Activity	FY 2000	FY 2001	FY 2002
Project Financing	Energy Savings Performance Contracts	Energy Savings Performance Contracts	Energy Savings Performance Contracts
	<p>Helped achieve more than 20 percent building energy reduction compared to 1985 energy use baseline through alternative financing. Updated the DOE qualified list of energy service companies. Analyzed ESPC performance in terms of goals to be met. Identified ESPC performance measures and program improvements needed to meet goal. Developed tools for energy managers to implement delivery orders more efficiently and effectively. Developed solicitation package for one additional Technology Specific Super ESPC with a focus on Biomass, bringing the number of technology specific Super ESPCs to four. Identified ways to expand use of ESPCs to water conservation projects. Addressed and implemented improvements to Super ESPC barriers. Implemented 20 Super ESPC delivery orders with a private sector investment value of \$61.5 million.</p>	<p>Support regulatory requirements to update and maintain qualified list of energy service companies and prepare performance metrics and progress analyses. Focus marketing and outreach efforts on an agency-specific basis. Perform analysis to identify implementation opportunities for ESPC for Federal leased space. Increase renewable energy and distributed energy resource projects through Super ESPCs. Identify Super ESPC opportunities in small facilities, new construction and laboratories. Continue efforts to identify and implement ways to increase the size and pace of awarding Super ESPC delivery orders. Update training materials and workshops to help prepare agency technical, contracting, legal, administrative, and management personnel to use the Super ESPC contracting vehicle. Train approximately 360 agency personnel. Super ESPC delivery orders valued at \$120 million are targeted for placement.</p>	<p>Continue efforts to deliver FEMP services to award Super ESPC delivery orders, which includes identifying and screening projects, preparing delivery orders and site data packages, evaluating proposals, reviewing and documenting projects. Conduct workshops to help prepare agency technical, contracting, budget, legal, administrative, and management personnel to use the Super ESPC contracting vehicle. Implement Super ESPC delivery orders valued at \$30 million.</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Project Financing (Cont'd)	<p>Utilities program</p> <p>Maintained and improved the effectiveness of the Federal Utility Working Group Partnership and expand utility resource centers to assist Federal customers in developing energy-saving projects.</p> <p>Through efficient delivery of FEMP services, development and dissemination of guidance documents, and training, increased the pace of awarding Utility Energy Service Contracts (UESC) for Federal energy projects.</p> <p>Through UESC, task orders valued at \$143 million were placed.</p> <p>Continued to prepare training materials and conduct workshops to help prepare agency technical, contracting, budget, legal, administration, and management personnel to use the UESC contracting vehicle.</p>	<p>Utilities program</p> <p>Continue to maintain and improve the effectiveness of the Federal Utility Working Group Partnership and expand utility resource centers to assist Federal customers in developing energy-saving projects and purchasing power from renewable energy sources.</p> <p>Assist Federal agencies in gaining an understanding of impacts of deregulation and utility restructuring to enable them to make informed decisions regarding commodity purchases and consumption.</p> <p>Through UESC, task orders valued at \$100 million will be placed.</p>	<p>Utilities program</p> <p>Maintain the Federal Utility Partnership Working Group to assist Federal customers in developing energy-saving projects. Provide training for Federal agencies to maximize energy and cost savings and project effectiveness. Provide direct technical assistance to Federal agencies not familiar with the identification, design, and implementation of projects under utility programs.</p> <p>Provide information and assistance to federal agencies to minimize cost risks and maximize benefits resulting from electric utility deregulation.</p>
	<p>Special Project State Grants Program</p> <p>Competitively awarded \$516,000 in</p>	<p>Special Project State Grants Program</p> <p>Award grants to states under the Special Project State Grants</p>	<p>Special Project State Grants Program</p> <p>No activities.</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Project Financing (Cont'd)	<p>grants to State offices in New York, Utah, and Washington to support energy projects in Federal facilities. These funds were included in the total Project Financing budget of \$9,404,000.</p> <p>FEMP received almost \$1.5 Million in recovered funds in FY 2000.</p> <p>Participants include: LBL, NREL, PNNL, ORNL, SNL, NETL, McNeil Technologies, Aspen Systems. (\$9,404)</p>	<p>program to provide local support to Federal installations and sites. Activities to be supported include audits and alternative financing for energy efficiency improvements. Grants of \$225,000 are planned for competitive award. These funds are included in the total Project Financing budget of \$9,667,000.</p> <p>FEMP estimates \$1 Million in recovered funds from agencies in FY 2001.</p> <p>Participants include: LBNL, NREL, PNNL, ORNL, SNL, NETL, McNeil Technologies, Aspen Systems. (\$9,667)</p>	<p>FEMP estimates \$400,000 in recovered funds from agencies in FY 2002.</p> <p>Participants include: LBNL, NREL, PNNL, ORNL, SNL, NETL, McNeil Technologies, Aspen Systems. (\$3,700)</p>
Total, Project Financing	\$9,404	\$9,667	\$3,700
Technical Guidance and Assistance	<p>Direct Technical Assistance</p> <p>Assisted 60 energy efficiency and renewable projects through audits and design assistance and provided supporting documentation and replication. Provided SAVEnergy audits and action plans; provided project assistance for feasibility studies, design reviews, and technical specifications.</p>	<p>Direct Technical Assistance</p> <p>Assist 60 energy efficiency, renewable energy and water conservation projects including distributed energy resources projects and provide supporting documentation for replication. Expand water conservation program to capture savings from increasing water rates. Support Green Energy</p>	<p>Direct Technical Assistance</p> <p>Provide support for 40 agency projects in the design, review, and implementation of energy efficiency, water conservation, and renewable projects including facility construction and renovation. Provide SAVEnergy audits to identify energy and cost saving opportunities. Assist agencies in</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Technical Guidance and Assistance (Cont'd)		Parks in collaboration with other EERE offices. Provide SAVEnergy audits and action plans; provided project assistance for feasibility studies, design reviews, and technical specifications. Offer assistance to industrial facilities by providing energy, waste, and productivity assessments on a plant-wide basis and energy analyses at targeted systems. FEMP will provide technical assistance to agencies' efforts to implement distributed energy projects. FEMP will also develop case studies of existing distributed energy projects to help agencies understand and implement these projects. FEMP will replicate biomass cofiring projects for Federal facilities utilizing documentation from previous projects and expand support for combined heat and power projects at Federal facilities. Technical information will be developed to help other agencies use combined heat and power and other distributed energy technologies.	amending their guide specifications to incorporate requirements for energy efficient products.

Training and Information

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Technical Guidance and Assistance (Cont'd)	<p>Training and Information</p> <p>Provided and improved training, technical information and tools to support a greater number of projects than FEMP can assist directly. Trained 5,300 students in energy efficient technologies. Published 25 technical information products. Through the Procurement Challenge, helped agencies procure the most energy efficient and water conserving products. Developed and provided software and other tools that help agencies screen for energy and water saving projects. Evaluated new, cost effective energy efficient, U.S. manufactured technologies that are not widely used in the Federal sector and shared the evaluation with Federal users. Included efforts to use biomass co-firing at Federal facilities. Supported combined heat and power activities, and developed technical information to help other agencies use combined heat and power. Supported a program to assist Federal agencies in improving energy efficiency of windows in Federal facilities.</p>	<p>Training and Information</p> <p>Provide and improve training, technical information and tools to support a greater number of projects than FEMP can assist directly. Trained 5,000 students in energy efficient technologies. Publish 25 technical information products. Through the Procurement Challenge, help agencies procure the most energy efficient and water conserving products. Continue to develop and update product energy efficiency recommendations, and coordinate with the Energy Star program. Assist the Defense Logistics Agency to issue an RFP and award a contract for a new higher efficiency roof-top air conditioner that is currently not on the market. Accelerate the development of improved software tools that help agencies screen for energy and water saving projects on an even handed basis. Maintain essential software such as the Building Life Cycle Cost tool which implements requirements for Life Cycle Costing project analysis. Evaluate new, cost effective energy efficient, U.S. manufactured technologies that are not widely</p>	<p>Provide technical information, and tools and train up to 2,000 personnel to support a greater number of projects than FEMP can assist directly. Develop and publish 12 technical information products. Through the Procurement Challenge, help agencies procure the most energy efficient and water conserving products. Continue to coordinate with the Energy Star Program.</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Technical Guidance and Assistance (Cont'd)	<p>Special Project State Grants Program</p> <p>Competitively awarded \$255,000 in grants to State offices in Florida, Montana, Puerto Rico, and Washington to support energy projects in Federal facilities. These funds were included in the total Technical Guidance and Assistance budget of \$7,241,000. (\$7,241)</p> <p>Participants included: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies, Aspen Systems.</p>	<p>used in the Federal sector; share results of the evaluation with Federal users.</p> <p>Special Project State Grants Program</p> <p>Award grants to states under the Special Project State Grants program to provide local support to Federal installations and sites. Activities to be supported include audits and alternative financing for energy efficiency improvements. Grants of \$100,000 are planned for competitive award. These funds are used in combination with Project Financing, and Planning, Reporting, and Evaluation funds. These funds are included in the total Technical Guidance and Assistance budget of \$7,896,000. (\$7,896)</p> <p>Participants include: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies, Aspen Systems.</p>	<p>Special Project State Grants Program</p> <p>No activities. (\$0)</p> <p>Participants include: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies, Aspen Systems. (\$3,000)</p>
Total, Technical Guidance and Assistance	\$7,241	\$7,896	\$3,000
Planning,	Policy and Planning	Policy and Planning	Policy and Planning

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Reporting, and Evaluation	<p>Supported core program activities, such as data collection and reporting for the FEMP Annual Report, which consolidated the energy use data of the Federal government and a variety of Congressional and Presidential reports required by law, Executive Order, GAO, OMB and Congressional inquiry.</p>	<p>Expand scope of program activities in support of FEMP mission and programs to reflect mandated goals and activities including new data collection and reporting requirements for the FEMP Annual Report, which consolidates the energy use data of the Federal government and responds to a variety of Congressional inquiries. Analyze potential for distributed energy resources at Federal facilities.</p>	<p>Advance a strategic plan to target FEMP services at key remaining opportunities in the Federal sector. Update Secretarial performance plans and status reports.</p>
	<p>Reporting and Operations</p> <p>Continued support to the Interagency Energy Management Task Force, the 656 Committee, the Federal Energy Awards Program, and regionally focused meetings to bring together agency energy managers, procurement officials, and energy product and service suppliers.</p> <p>Analyzed a web-based database that tracks and provides information on Federal facilities, energy consumption and costs, facility managers, energy efficiency, solar and other renewables and water conservation projects to fulfill mandated reporting requirements.</p>	<p>Reporting and Operations</p> <p>Increase efforts to more actively engage the Interagency Energy Management Task Force, the 656 Committee, the Federal Energy Awards Program, and regionally focused meetings to bring together agency energy managers, procurement officials, and energy product and service suppliers to more productively participate in energy efficiency, water conservation and renewable energy programs.</p> <p>Review and revise existing policy guidance to support FEMP</p>	<p>Reporting and Operations</p> <p>Facilitate one or two meetings with senior officials, the 656 Committee and the Presidential Management Council, and provide support for the Federal Energy Management Advisory Committee. Collect and publish data for the Annual Report to Congress, respond to inquiries and provide support to ensure accuracy in reporting and analysis of trends. Support Energy Efficiency and Renewable Energy Clearinghouse (EREC) and the Energy Efficiency and Renewable Energy Network (EREN) to distribute materials, respond to</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Planning, Reporting, and Evaluation (Cont'd)	<p>The database will support reporting of energy efficiency and environmental impacts.</p> <p>Reviewed FEMP corporate outreach activities that were designed primarily to provide motivational and case study support for energy management and water conservation activities across the Federal sector. Modified these materials based on lessons learned from materials used in prior years.</p> <p>FEMP information products were made available to all public and private sector organizations that requested them.</p> <p>Supported printing and continuous updates to the FEMP Web site and other materials to maintain uniform communications material across the Federal sector.</p> <p>Special Project State Grants Program</p> <p>Competitively awarded a \$175,000 grant to the Wisconsin State office to support energy projects in Federal facilities. These funds were included in the total Planning,</p>	<p>activities as new projects are initiated under fee for service agreements with outside agencies.</p> <p>Reevaluate and make enhancements on a web-based database which will provide accurate and up-to-date information. The database will support reporting of energy efficiency and environmental impacts.</p> <p>Maintain a comprehensive energy efficiency outreach program to allow easy access to FEMP's energy efficiency tools and resources.</p> <p>Special Project State Grants Program</p> <p>Award grants to states under the Special Project State Grants program to provide local support to Federal installations and sites.</p>	<p>inquiries and maintain data to respond to hits on the FEMP web site.</p> <p>Special Project State Grants Program</p> <p>No activities. (\$0).</p>

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Planning, Reporting, and Evaluation (Cont'd)	Reporting, and Evaluation budget of \$3,295,000. (\$3,295) Participants included: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies.	Activities to be supported include audits and alternative financing for energy efficiency improvements. Grants of \$75,000 are planned for competitive award. These funds are used in combination with Project Financing, and Technical Guidance and Assistance funds. These funds are included in the total Planning, Reporting, and Evaluation budget of \$2,777,000. (\$2,777) Participants include: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies.	Participants include: LBNL, NREL, PNNL, ORNL, SNL, McNeil Technologies. (\$1,340)
Total, Planning, Reporting, and Evaluation	\$3,295	\$2,777	\$1,340
Technical/Prog. Management Support	Provide critical technical and program management support services. (McNeil Technologies) (\$791)	Provide critical technical and program management support services. (McNeil Technologies) (\$887)	Provide critical technical and program management support services. (McNeil Technologies) (\$860)
Total, Technical/Prog. Management Support	\$791	\$887	\$860
Program Direction	The following is a breakdown of the funding by Object Class: 11.9 Personnel compensation \$ 1,438 12.1 Civilian personnel benefits \$ 312	The following is a breakdown of the funding by Object Class: 11.9 Personnel compensation \$ 2,433 12.1 Civilian personnel benefits \$ 535	The following is a breakdown of the funding by Object Class: 11.9 Personnel compensation \$ 2,175 12.1 Civilian personnel benefits \$ 480

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
21.0 Travel and transportation of persons	\$ 115	\$ 185	\$ 160
25.0 Other contractual services	\$ 112	\$ 100	\$ 1,585
<p>Provided for salaries, benefits, and travel for 20 FTEs to manage and support the FEMP program activities. Total obligational authority of \$1,977,000 included \$112,000 from FY 1999 unobligated carryover. (\$1,865)</p>	<p>Provide for salaries, benefits, and travel for 32 FTEs to manage and support the FEMP program activities. With authority granted by Congress in the Omnibus Bill, P.L. 105-277 signed by the President on October 21, 1998, FEMP may use recovered funds for all necessary program expenses, including contractor support and resources need to achieve greater energy savings in Federal facilities. Limited appointment Federal personnel are planned to be hired to support project financing and technical assistance programs at HQ, GO and RO's to be paid from reimbursed funds.</p> <p>Also supports a systematic analysis of staffing needs within the context of current and projected R&D program missions, and the development of a comprehensive plan that will focus on building and sustaining a talented and diverse workforce of R&D Technical Managers. The total obligational authority of \$3,253,000 for Program</p>	<p>The request provides for salaries, benefits, and travel for 27 FTEs to manage and support the FEMP program activities. With authority granted by Congress in the Omnibus Bill, P.L. 105-277 signed by the President on October 21, 1998, FEMP may use recovered funds for all necessary program expenses, including contractor support and resources need to achieve greater energy savings in Federal facilities. Limited appointment Federal personnel are planned to be sustained to support project financing and technical assistance programs at HQ, GO and RO's to be paid from reimbursed funds. (\$2,815)</p>	
Program Direction (Cont'd)			

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
		Direction includes \$260,000 from FY 2000 unobligated carryover. (\$2,993)	
	TRANSFER FROM: Planning, Reporting, and Evaluation and Program Direction	TRANSFER FROM: Planning, Reporting, and Evaluation and Program Direction	
	Management Support Services	Management Support Services	Management Support Services
	Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs.	Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs.	Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs. The increase in FY 2002 helps to support activities under the reimbursable authority.
Program Direction (Cont'd)	(McNeil Technologies). (\$1,322)	(McNeil Technologies, Energetics). (\$1,441)	(McNeil Technologies, Energetics).

III. Performance Summary: FEDERAL ENERGY MANAGEMENT PROGRAM (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
			(\$1,585)
Total, Program Direction	\$3,187	\$4,434	\$4,400
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TOTAL, OFFICE OF FEDERAL ENERGY MANAGEMENT PROGRAMS	\$23,918	\$25,661	\$13,300

**DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY EFFICIENCY AND RENEWABLE ENERGY
ENERGY CONSERVATION
(Tabular Dollars in Thousands, Narrative in Whole Dollars)**

POWER TECHNOLOGIES

PROGRAM MISSION

Mission

The Distributed Energy Resources (DER) Program leads a national effort to develop and integrate the "next generation" of clean, efficient, reliable, and affordable distributed energy technologies; document the energy, economic, and environmental benefits of the expanded use of distributed energy resources and widely disseminate the findings; and implement deployment strategies, including national and international standards, that address infrastructure, energy delivery, institutional, and regulatory needs.

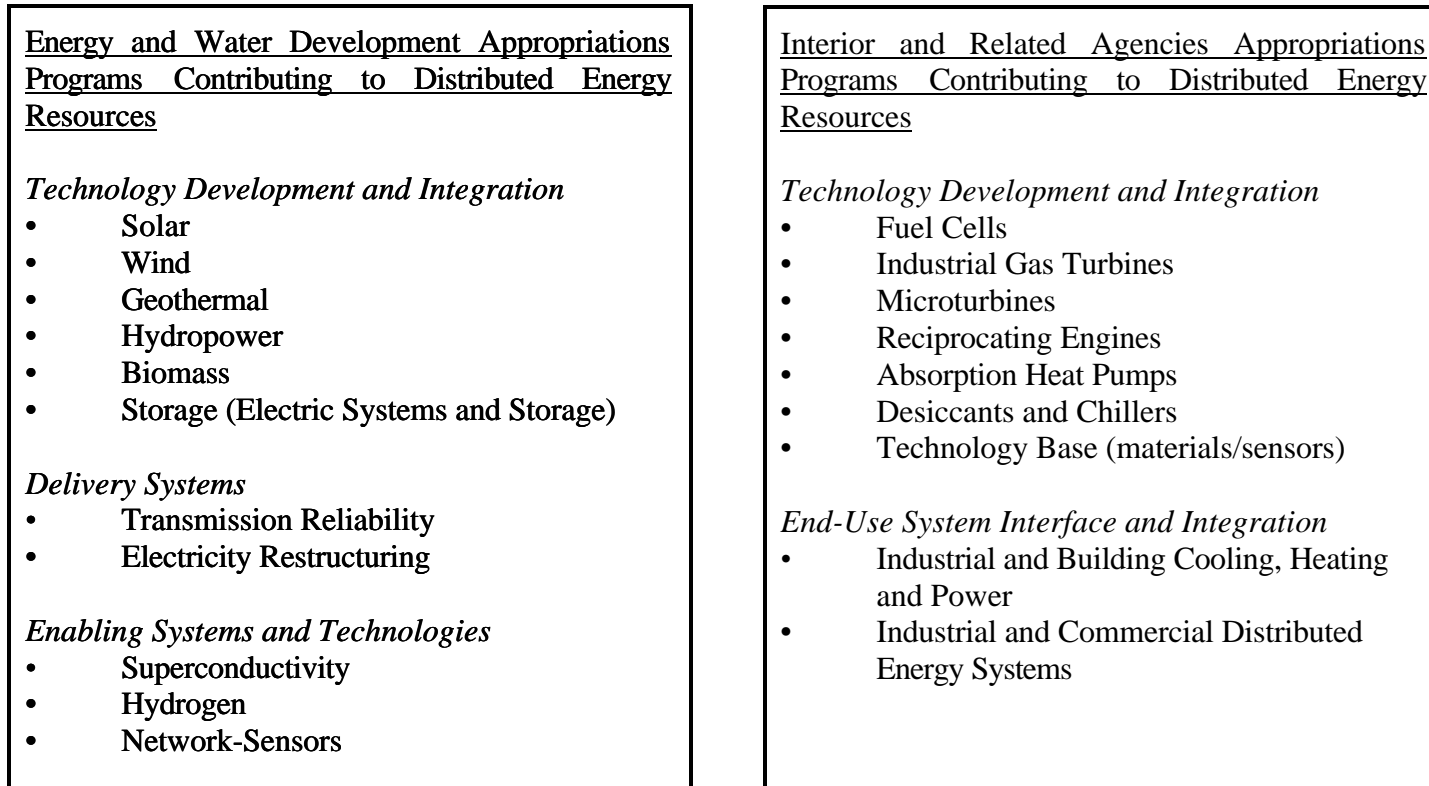
Strategic Context

Distributed energy refers to the production of electricity at or near the point of distribution or use, in industry, buildings, or district energy systems to complement central power stations. DOE's distributed energy generation initiative goal is to develop the cooperation and technology necessary to enable these interdependent systems to provide nearly 20 percent of the nation's new power by the end of the decade. Moving energy supplies closer to the point of end use through such technologies as microturbines, promises important economic, environmental, and reliability advantages. The direct economic benefits of such systems include efficient and cost-effective power resources, power in locations where there are no utility services (e.g. rural Alaska), maximum use of recoverable energy, and the sale of surplus power to meet electricity demand or provide peaking power. Distributed systems include combustion turbines, fuel cells, microturbines, and engines/generator sets. Thermally activated technologies include cooling dehumidification, humidification, water heating, steam heating, and drying.

Strategic Approach

The DER Program is focusing on energy efficiency and technology development research activities. This strategic approach includes, among other planning elements, an evaluation of the current and future market needs for energy resources, technology innovations, and regulatory and institutional barriers that limit free competition of these technologies in the marketplace.

The DER program combines the energy efficiency activities from the Interior funded sectors with the Office of Energy Efficiency and Renewable Energy and complements the Energy and Water Development research activities within the Office of Power Technologies. A delineation of programs and activities under the respective appropriation jurisdiction is reflected in the figure below.



Goals and Benefits

Goals and Performance Measures:

- By 2005, have a 50 kW high temperature proton exchange membrane fuel cell operating in a BCHP certified building.
- By 2010, demonstrate a reciprocating engine at approximately 50 percent efficiency from a baseline of 36 to 42 percent efficient in 1999.

- By 2010, the capacity of combined cooling heating and power systems used in industrial, commercial, and institutional applications will be 92 GW.
- By 2010, demonstrate a microturbine at approximately 40 percent efficiency from levels of 23 to 27 percent efficient in 1999.
- By 2012, achieve a market share of 20 percent of new capacity for distributed power through the integration of distributed resources including generation, waste heat utilization, targeted load management, and systems integration into the power system.
- Increased consistency between State and proposed Federal legislation on technology performance standards and pre-certification emission standards.

Benefits:

Distributed energy resources provides some unique benefits to power companies and customers that are not available from centralized electricity generation. Distributed power technologies are inherently modular, thereby enabling capacity additions and reductions in small increments that are closely matched with demand. Distributed energy resources also reduce the load at the distribution level of the transmission and distribution grid, thus helping increase the reliability of the electricity system. In addition, it is much cheaper and easier to meet a growing local demand for electricity by adding new generators close to the load than by adding transmission capacity. This is partly because of the lengthy permitting process required for new transmission lines. Modular power plants-using natural gas or solar resources, for example, can be approved and sited close to a new load in a matter of months, versus several years for transmission line upgrades. Transmission networks are also inherently expensive to build and maintain. According to the Pacific Gas and Electric Company, some utilities spend \$1.50 to distribute power for every \$1.00 they spend producing it, a perspective that is supported by data from the Energy Information Administration. The projected benefits of the Distributed Energy Resources Program are shown in the table below.

	2005	2010	2020
Total Primary Energy Displaced (Trillion Btu)	178	405	1,029
Energy Costs or Savings (Millions of \$)	860	2,000	5,030
Carbon Equivalent Emissions Displaced (MMTCe)	4	11	30

Source: GPRA 2001 EERE Database. Numbers in the above table represent the projected annual benefits in 2005, 2010, and 2020 based on the FY2002 funding request, assuming all program goals are met.

DEPARTMENT OF ENERGY
 FY 2002 CONGRESSIONAL BUDGET REQUEST
 ENERGY CONSERVATION
 (Dollars in Thousands)

POWER TECHNOLOGIES

PROGRAM FUNDING PROFILE

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	Program Change Request vs. FY 2001	
				Dollar	Percent
Distributed Energy Resources	\$ 48,000	\$ 45,899	\$ 45,896	\$ -3	0.0%
Management and Planning	\$ 1,555	\$ 1,447	\$ 1,450	\$ 3	0.2%
TOTAL	\$ 49,555	\$ 47,346	\$ 47,346	\$ 0	0.0%
Summary					
Operating Expenses	\$ 49,555	\$ 47,346	\$ 47,346	\$ 0	0.0%
Total Program	\$ 49,555^a	\$ 47,346^b	\$ 47,346	\$ 0	0.0%
Staffing (FTEs)					
HQ FTEs	5	5	5		
Field FTEs	3	3	3		
Total FTEs	8	8	8		

Authorizations:

P.L. 94-163, Energy Policy and Conservation Act

P.L. 94-385, Energy Conservation and Production Act

P.L. 95-619, National Energy Conservation Policy Act
P.L. 100-615, Federal Management Improvement Act
P.L. 102-486, Energy Policy Act

^{a/} Reflects comparability adjustments of \$14,855,000 from the Buildings Technology, State and Community Program and \$34,700,000 from the Industry Program for the new Power Technologies Program.

^{b/} Reflects adjustments of \$-104,000 for Omnibus Rescission and \$300,000 Supplemental Appropriation, P.L. 106-554. Reflects comparability adjustments of \$21,450,999 from the Buildings Technology, State and Community Program and \$25,700,000 from the Industry Program for the new Power Technologies Program.

DEPARTMENT OF ENERGY
 FY 2002 CONGRESSIONAL BUDGET REQUEST
 ENERGY CONSERVATION
 (Dollars in Thousands)

POWER TECHNOLOGIES

SUMMARY OF CHANGES

	FY 2002 Request
FY 2001 Comparable	\$ 47,346
Non-Discretionary	
- Increase for Federal Pay Raise and Locality Pay	6
- Increase for Federal Personnel Transit Subsidy	4
	4
FY 2002 Base	\$ 47,356
<u>Power Technologies:</u>	
- Distributed Energy Resources - A small reduction in advanced generation and thermally activated technologies of \$-7 is offset by a small increase of \$4 for industrial, commercial, and institutional distributed energy systems.	-3
- Management and Planning - Decrease in evaluation and planning offset by discretionary payroll increases.	-7
	-7
FY 2002 Congressional Budget Request	\$ 47,346

**POWER TECHNOLOGIES
(Dollars in Thousands)**

DISTRIBUTED ENERGY RESOURCES

I. Mission Supporting Goals and Objectives:

The Distributed Energy Resources Program (DER) focuses on two primary Key Activities: (1) Distributed Generation Technology Development; and, (2) End-Use Systems Integration and Interface.

Distributed Generation Technology Development is leading a national effort to develop the “next generation” of clean, efficient, fuel flexible distributed energy technologies. The program element supports R&D to raise the efficiency and performance while reducing cost and lowering emissions. This will provide a broader range of clean energy choices for consumers. Technical, regulatory (performance and environmental precertification) and institutional (fire and building codes) considerations for generators are addressed so that distributed energy resources can compete on an equal and consistent basis with other technologies to supply energy and ancillary services. Generation technologies include industrial gas turbines, microturbines, reciprocating engines, and proton exchange membrane fuel cells. Research in the area of thermally activated technologies focuses on broad utilization potential such as cooling, humidification, dehumidification, water heating, steam heating and drying. These technologies use the waste heat energy rejected during electricity generation from microturbines, reciprocating engines and fuel cells in the form of cooling heating and power (CHP).

End-Use Systems Integration and Interface supports the integration of distributed energy technologies by end-use customers in industrial, commercial and institutional sectors and to quantify benefits and impacts. Distributed generation technologies can be incorporated to satisfy power quality, power reliability, thermal loads (cooling, steam, hot water) and mechanical drive needs. This effort consists of assessments, development of technical tools, innovated systems controls, and load management research for Industrial and Commercial Energy Systems as well as Industrial and Building Cooling, Heating, and Power.

Distributed Energy Resources Accomplishments

FY2000 Accomplishments:

- Demonstrate two advanced industrial turbine system engines at end-user sites. (Advanced Turbine Systems component prior to DER)

FY 2001 Ongoing Accomplishments:

- Complete 5,000 hour durability, performance, and emissions testing of the Mercury 50 advanced turbine System engine. (Advanced Turbine Systems component prior to DER)

FY 2002 Planned Accomplishments:

- Demonstrate microturbine/chiller package at a University site.
- Complete preliminary system designs for a 40 percent efficient microturbine and a low emission reciprocating engine.
- Complete assessment of a distributed energy resources combined heat and power application at three sites.
- Demonstrate an advanced ceramic combustor liner in an industrial gas turbine for over 16,000 hours continuous service.
- Complete test and evaluation of a large absorption chiller.

II. A. Funding Table: DISTRIBUTED ENERGY RESOURCES

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Distributed Generation Technology Development	\$ 44,000	\$ 43,903	\$ 43,896	\$ -7	0.0%
End-Use Systems Integration and Interface	\$ 4,000	\$ 1,996	\$ 2,000	\$ 4	0.0%
Total, Distributed Energy Resources	\$ 48,000	\$ 45,899	\$ 45,896	\$ -3	0.0%

II. B. Laboratory and Facility Funding Table: DISTRIBUTED ENERGY RESOURCES

	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Argonne National Lab (East)	\$ 925	\$ 575	\$ 575	\$ 0	0.0%
Brookhaven National Lab	\$ 500	\$ 500	\$ 500	\$ 0	0.0%
Idaho National Engineering and Environmental Lab	\$ 0	\$ 0	\$ 0	\$ 0	0.0%
Lawrence Livermore National Lab	\$ 0	\$ 0	\$ 0	\$ 0	0.0%
Los Alamos National Laboratory	\$ 0	\$ 0	\$ 0	\$ 0	0.0%
National Renewable Energy Lab	\$ 1,050	\$ 2,060	\$ 2,060	\$ 0	0.0%
Oak Ridge National Lab	\$ 8,370	\$ 7,867	\$ 7,867	\$ 0	0.0%
Sandia National Laboratories	\$ 400	\$ 100	\$ 100	\$ 0	0.0%
All Other	\$ 36,755	\$ 34,797	\$ 34,794	\$ -3	0.0%
Total, Distributed Energy Resources	\$ 48,000	\$ 45,899	\$ 45,896	\$ -3	0.0%

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development	Advanced Generation and Thermally Activated Technologies High efficiency technologies were developed as packages comprised of generation technologies married to thermally activated technologies. Continued the development of fuel flexible advanced power generation technologies by raising the efficiency and performance, and lowering the cost and emissions of on-site power generation. Technologies supported included industrial gas turbines, microturbines, reciprocating engines, and proton exchange membrane (PEM) fuel cells. Continued a technology base effort including advanced materials, sensors and controls, and advanced oil combustion that would benefit a number of advanced generation technologies.	Advanced Generation and Thermally Activated Technologies High efficiency technologies are being developed as packages comprised of generation technologies married to thermally activated technologies. Continued the development of fuel flexible advanced power generation technologies by raising the efficiency and performance, and lowering the cost and emissions of on-site power generation. Technologies supported include industrial gas turbines, microturbines, reciprocating engines, and proton exchange membrane (PEM) fuel cells. Continued a technology base effort including advanced materials, sensors and controls, and advanced oil combustion that will benefit a number of advanced generation technologies.	Advanced Generation and Thermally Activated Technologies High efficiency technologies will be developed as packages comprised of generation technologies married to thermally activated technologies. Continue the development of fuel flexible advanced power generation technologies by raising the efficiency and performance, and lowering the cost and emissions of on-site power generation. Technologies to be supported include industrial gas turbines, microturbines, reciprocating engines, and proton exchange membrane (PEM) fuel cells. Continue a technology base effort including advanced materials, sensors and controls, and advanced oil combustion that will benefit a number of advanced generation technologies.

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>TRANSFER FROM: Building Technology, State, and Community Sector/ Building Research and Standards/ Equipment, Materials, and Tools/ Cogeneration/Fuel Cells</p> <p>In the area of PEM fuel cells, research was developed and laboratory tested two different concepts of natural gas reformers. Continued the four design competitions for a second generation, 50 kW fuel cell system for buildings that will operate at higher temperatures, lower pressure and be cost-effective and suitable for cogeneration.</p>	<p>TRANSFER FROM: Building Technology, State, and Community Sector/ Building Research and Standards/ Equipment, Materials, and Tools/ Cogeneration/Fuel Cells</p> <p>Conducted package systems studies for fuel cell combined heat and power applications. Completed the design competition for a 50 kW fuel cell for buildings and initiate one or two of the design concepts for a PEM fuel cell system. Initiated the next phase of the reformer design and fabricate an engineering prototype for laboratory testing, incorporate it into a 50kW PEM fuel cell, and install in a building for test and evaluation.</p>	<p>Finalize laboratory prototype for Natural Gas Fuel Processor with CO clean-up capability for low temperature stationary PEM fuel cell. Fabricate laboratory prototype of a Membrane-Electrode-Assembly with advanced high temperature membranes for PEM fuel cell. Complete phase II design of a 50kW high temperature PEM fuel cell incorporating cooling, heating and power (CHP) principles for recoverable heat.</p>
	<p>TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Distributed Generation/ Industrial Power Generation</p>	<p>TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Distributed Generation/ Industrial Power Generation</p>	
	<p>Completed the industrial ATS program activities including manufacture, demonstration, and</p>	<p>Continued durable, cost effective low emissions technology research and development to demonstrate</p>	<p>Continue durable cost effective low emissions technology research and development to field test emission</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>deployment of full-scale engines. Completed first industrial scale engine built and ATS deliver to customer site for full-scale demonstration of technology. Began to validate program goals of increased engine efficiency (15 percent) with less than 10 parts per million NO_x and less than 20 parts per million carbon monoxide emissions, and reduction in the cost of electricity by 10 percent.</p>	<p>emissions levels of less than 7 ppm NO_x for advanced gas turbines.</p>	<p>levels of less than 7 ppm NO_x for advanced gas turbines.</p>
	<p>For microturbines, generation in the form of less than 1,000 kWh have the potential to alleviate high-peak load demands. Completed Phase I feasibility studies for microturbines which identified key research areas barriers and enabling technologies required for development of improved systems.</p>	<p>Continued the R&D program for advanced microturbines with goals of over 40 percent efficiency, single digit emissions, fuel flexibility and 10 percent reduction in costs. Manufacturers began design and development of critical component and subcomponent for the second generation microturbines. Research focused on recuperator improvements, combustion systems, reliability and durability improvements on critical components such as bearings.</p>	<p>Continue efforts on second generation of advanced microturbines to achieve efficiencies of at least 40 percent, single digit emissions, fuel flexibility, and 10 percent reduction in costs. Will fabricate and test key critical components and subsystems such as recuperators, turbine, combustor, gas compressor, and control package to improve efficiency, reliability, and durability.</p>
	<p>For reciprocating engines activities, developed an advanced reciprocating natural gas engine</p>	<p>Continued to support the development of the advanced reciprocating engines systems</p>	<p>Continue to support the development of the advanced reciprocating engines systems</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>with an efficiency of 50 percent, single digit emissions, and 10 percent reduction in operating and maintenance costs. Completed feasibility studies to identify key barriers and enabling technologies required for development.</p> <p>TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Enabling Technologies/ Engineering Ceramics/CFCCs</p> <p>The collaborative team among the program, industry, national laboratories, and universities developed long term testing of advanced materials with superior high temperature strength and fatigue resistance, corrosion resistance, and wear resistance for various distributed generation.</p>	<p>(ARES) program to develop a 50 percent efficient reciprocating engine with single digit emissions and 10 percent reduction in costs. Engine manufacturers began design of advanced engines system, including key sub-systems such as combustion, ignition, fuel delivery.</p> <p>TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Enabling Technologies/ Engineering Ceramics/CFCCs</p> <p>The team of industry, national laboratories, and universities collaborated to develop, test and demonstrate advanced materials with superior high temperature strength and fatigue resistance, corrosion resistance, and wear resistance for various applications in gas turbine engines.</p>	<p>(ARES) program to develop a 50 percent efficient reciprocating engine with single digit emissions and 10 percent reduction in costs. Engine manufacturers will begin development and testing of specific engine components and subcomponents. Pre-competitive R&D will also continue with laboratories and universities participating along with other industrial suppliers.</p> <p>Plans to develop, test, and integrate advanced materials with superior high temperature strength and fatigue, corrosion, and wear resistance for combustor liner applications in distributed generation systems. Develop and test CFCC for applications such as combustor liners and shrouds in gas turbine applications. CFCC components will be field tested under commercial operating conditions for at least 4,000 hours.</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)		<p>Initiated development of a roadmap and strategic plan for research and development on communications and control technologies for the integration of distributed energy resources into energy delivery systems. Identified key research and development priorities with Industry.</p>	<p>As the penetration of distributed generation technologies increase throughout the electric system, sensors and communication functional requirements will need to be developed to ensure that the distributed generation technologies can contribute to the grid adequacy and security by providing sufficient generation resources and can communicate in a coordinate manner in the event of a contingency. The advanced sensors will need to be cost effective, reliable and “plug and play”, including flexibility to handle different types of distributed generation technologies with seamless integration. Initiate activities with industry on development of sensor architecture and communication functional requirements.</p>
		<p>TRANSFER FROM: Building Technology, State, and Community Sector/ Building Research and Standards/ Equipment, Materials, and Tools/ Furnaces & Boilers/ Combustion Research</p>	

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>TRANSFER FROM: Building Technology, State, and Community Sector/ Building Research and Standards/ Equipment, Materials, and Tools/ Space Conditioning & Refrigeration R&D/ Residential Absorption Heat Pumps/ Desiccant and Chillers</p>	<p>TRANSFER FROM: Building Technology, State, and Community Sector/ Building Research and Standards/ Equipment, Materials, and Tools/ Space Conditioning & Refrigeration R&D/ Residential Absorption Heat Pumps/ Desiccant and Chillers</p>	<p>Continue to improve the quality of oil combustion systems and fuel flexibility for distributed energy resource applications, including combined heat and power.</p>
	<p>Research supported in the area of thermally activated technologies focused on technologies that have broad utilization potential utilizing waste heat from power generation technologies for applications such as cooling, dehumidification, humidification, water heating,</p>	<p>Research supported in the area of thermally activated technologies focused on technologies that have broad utilization potential utilizing waste heat from power generation technologies for applications such as cooling, dehumidification, humidification, water heating,</p>	<p>Research supported in the area of thermally activated technologies focuses on technologies that have broad utilization potential utilizing waste heat from power generation technologies for applications such as cooling, dehumidification, humidification, water heating,</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>steam heating, and drying. Using the viable heat energy rejected from the making of electricity, high efficiencies were achieved and packaged technologies were integrated and optimized for end-use application.</p> <p>Developed and issued solicitations for projects that were identified and prioritized in the FY 1999 HVAC and refrigeration road map. Field tested multiple GAX heat pumps for potential commercialization in FY2001. Completed testing of a high temperature heat exchanger prototype and began prototype development for the 3-ton solid/vapor hi-cool heat pump that could be introduced into the market in 2005. Completed field test of the commercial prototype and facilitate the commercialization of a 450 ton DCC chiller using the DOE patented lithium bromide/water refrigerant with York International. Fabricated and began testing a rotary heat exchanger for a residential 3-ton natural gas absorption chiller.</p> <p>Accelerated the commercialization of improved desiccant technology allowing commercial and residential</p>	<p>steam heating, and drying. Using the viable heat energy rejected from the making of electricity high efficiencies can be achieved and package technologies can be integrated and optimized for end-use application.</p> <p>Completed multiple field test of GAX heat pump. Began fabricating several pre-production prototype units for introduction into the market place. Fabricated several engineering prototype units of a 3-ton Solid/vapor heat pump for field test and evaluation. Completed work on a pre-production 450 ton DCC cycle chiller and begin technology transfer to the market place.</p> <p>Continued working with the gas industry to commercialize desiccant technology for improved ventilation and indoor air quality. Continued work with Georgia Tech Research Institute in testing and evaluating desiccant systems impact on indoor air quality in schools and high occupancy buildings. Completed testing desiccant systems in side-by-side comparison with standard HVAC systems in high occupancy restaurants and evaluate the impact</p>	<p>steam heating, and drying. Using the viable heat energy rejected from the making of electricity high efficiencies can be achieved and package technologies can be integrated and optimized for end-use application.</p> <p>Fabricate several engineering prototype residential heat pumps for multiple unit field test. Continue design and begin fabrication of critical components for a hybrid design of an absorption heat pump using building cooling and heating. Complete fabrication of an engineering prototype Ammonia/Water heat pump for light commercial application. Investigate new thermally activated technologies and systems including thermal management. Complete test and evaluation of field test of a Large Absorption Chiller at the Clark Country Office Building in Las Vegas, NV. Begin design of DER/CHP concept for large commercial chiller. Continue R&D on advanced novel desiccant material for improved performance in humidity control, regeneration time and energy, and reduced cost. (\$43,416)</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	<p>air conditioners to increase ventilation and improve indoor air quality while reducing energy consumption. Tested performance of advanced, liquid desiccants system prototype that will significantly improve air quality. (\$43,520)</p> <p>Participants included: Oak Ridge National Laboratory, Argonne National Laboratory, Honeywell Ceramics, Kyocera Ceramics, Honeywell Composites, GE, International Fuel Cells, H2S Burner Technologies, Foster Miller Associates, EERC, ADL, Allied Signal, Analytic Power, Plug Power, Avista Labs, Materials & Electrochemical Research, EIC Lab, PNL, Solar Turbines Inc., Allison Engines, Battelle Columbus Laboratories, Pratt & Whitney, Westinghouse, Southwest Research Institute, Allied Signal Ceramics Inc., Kyocera, Catalytica, PCI, Honeywell, Capstone, General Electric, United Technologies, Ingersoll Rand,, State Energy Offices, Caterpillar, Waukesha, Cooper, Cummins, Fairbanks Morse, National Energy Technology Laboratory, Sandia National Laboratory, Mississippi Valley Gas,</p>	<p>of desiccants on comfort, indoor air quality, and humidity control in buildings. (\$43,423)</p> <p>Participants include: Oak Ridge National Laboratory, Argonne National Laboratory, Honeywell Ceramics, Kyocera Ceramics, Honeywell Composites, GE, International Fuel Cells, H2S Burner Technologies, Foster Miller Associates, EERC, ADL, Allied Signal, Analytic Power, Plug Power, Avista Labs, Materials & Electrochemical Research, EIC Lab, PNL, Solar Turbines Inc., Allison Engines, Battelle Columbus Laboratories, Pratt & Whitney, Westinghouse, Southwest Research Institute, Allied Signal Ceramics Inc., Kyocera, Catalytica, PCI, Honeywell, Capstone, General Electric, United Technologies, Ingersoll Rand,, State Energy Offices, Caterpillar, Waukesha, Cooper, Cummins, Fairbanks Morse, National Energy Technology Laboratory, Sandia National Laboratory, Mississippi Valley Gas, Rocky Research, York International, Southwest Gas, So Cal Gas, Energy Concepts, Semco, Trane, Kathabar, Englehard, National Energy Renewable</p>	<p>Participants include: Oak Ridge National Laboratory, Argonne National Laboratory, Honeywell Ceramics, Kyocera Ceramics, Honeywell Composites, GE, International Fuel Cells, H2S Burner Technologies, Foster Miller Associates, EERC, ADL, Allied Signal, Analytic Power, Plug Power, Avista Labs, Materials & Electrochemical Research, EIC Lab, PNL, Solar Turbines Inc., Allison Engines, Battelle Columbus Laboratories, Pratt & Whitney, Westinghouse, Southwest Research Institute, Allied Signal Ceramics Inc., Kyocera, Catalytica, PCI, Honeywell, Capstone, General Electric, United Technologies, Ingersoll Rand,, State Energy Offices, Caterpillar, Waukesha, Cooper, Cummins, Fairbanks Morse, National Energy Technology Laboratory, Sandia National Laboratory, Mississippi Valley Gas, Rocky Research, York International, Southwest Gas, So Cal Gas, Energy Concepts, Semco, Trane, Kathabar, Englehard, National Energy Renewable Laboratory, American Gas Cooling Center and Gas Technology Institute, and NRECA.</p>

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	Rocky Research, York International, Southwest Gas, So Cal Gas, Energy Concepts, Semco, Trane, Kathabar, Englehard, National Energy Renewable Laboratory, American Gas Cooling Center and Gas Technology Institute, and NRECA.	Laboratory, American Gas Cooling Center and Gas Technology Institute, and NRECA.	
	Technical/Program Management Support	Technical/Program Management Support	Technical/Program Management Support
	Included activities which are integral part of the distributed generation technology development program. Representative activities included preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluated the impact of new legislation on R&D programs; analyzed energy issues pertinent to the R&D program; identified performance measures and methodologies (including GPRA); collected data to assess program and project performance, efficiency and impacts; and development of performance agreements with management.	Included activities which are integral part of the distributed generation technology development program. Representative activities include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of new legislation on R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management.	Includes activities which will be an integral part of the distributed generation technology development program. Representative activities will include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of new legislation on R&D programs; analysis of energy issues pertinent to the R&D program; development of communication tools; identification of performance measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$480)

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Distributed Generation Technology Development (Cont'd)	Specific examples include completion of Advanced Microturbine Systems program plan, Distributed Energy Resources Annual Operating Plan. (\$480)	Specific examples included completion of Advanced Reciprocating Engine Plan, Communications and Sensors for Distributed Energy Resources Program Plan, Distributed Energy Resources Strategic Plan, and Distributed Energy Resources Annual Operating Plan. (\$480)	
Total, Distributed Generation Technology Development	\$44,000	\$43,903	\$43,896
End-Use Systems Integration and Interface	TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Distributed Generation/ Industrial Distributed Generation <u>AND</u> TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Technical Assistance/ Best Practices Program	TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Distributed Generation/ Industrial Distributed Generation <u>AND</u> TRANSFER FROM: Industry Sector/ Industries of the Future (Crosscutting)/ Technical Assistance/ Best Practices Program	

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (cont.)

Program Activity	FY 2000	FY 2001	FY 2002
End-Use Interface and Integration (Cont'd)	<p>Industrial, Commercial, and Institutional Distributed Energy Systems</p> <p>Supported distributed power technologies and impacts on industrial, commercial and institutional facilities. A solicitation identified issues that incorporated distributed generation technologies to resolve power quality, power reliability, stability, systems efficiency and economic issues. Items such as grid control from flickering, and cooling/refrigeration needs that crosscut all industries were addressed. Additionally, the following activities were addressed: support for design of innovative distributed generation process integration plans with analysis of potential energy savings. Comprehensive assessment was made of existing distributed generation installations at industrial sites to determine reliability/availability and used the results to perform a causal outage analysis. Enhanced existing commercial project evaluation tools</p>	<p>Industrial, Commercial, and Institutional Distributed Energy Systems</p> <p>Continued supporting R&D solicited for direct support to utility/industrial teams for addressing power generation/cogeneration issues identified by the industry. Initiated a real time load control monitoring system in cooperation with the steel industry. Comprehensive assessment of existing and new distributed generation installations at industrial and commercial sites to determine reliability/availability.</p>	<p>Industrial, Commercial, and Institutional Distributed Energy Systems</p> <p>Continue supporting R&D solicited of direct support to utility/industrial teams and state partners in addressing power generation/cogeneration reliability issues, and mechanical drive applications. Will perform comprehensive assessment of existing and new distributed generation installations at industrial and commercial sites to determine reliability/availability and benefits. These assessments will include advanced hybrid technologies and options. Plan to disseminate information and education materials among potential consumers based on information from assessments.</p>

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
End-Use Interface and Integration (Cont'd)	<p>and other DOE distributed generation planning models by making more industrial load profiles available. Evaluated economic impact of grid power quality effects on industrial customers in order to quantify the economic benefits of improved power quality.</p> <p>CHP technical assistance activities were focused on addressing the barriers and providing the technical tools and expertise necessary for demonstrating to industry how successful CHP technologies are, and to increase awareness of and confidence in these technologies. The program continued to work with the other programs fully supporting an integrated effort making CHP an important technology option for industrial, commercial and institutional settings. (\$3,950)</p> <p>Participants include: State Energy Offices, Onsite Energy, Washington State University, Oak Ridge National Laboratory, Allison Engines, NYSEDA, So Cal Gas,</p>	<p>Recent technological advances have made CHP systems more efficient and less expensive. The energy efficiency of CHP systems can exceed 80 percent. Additionally, CHP has been identified as one of the most near term cost-effective sections to reduce global carbon emissions. The effort supported the joint DOE-Industry goal to double the amount of CHP capacity in the U.S. by 2010, equal to 46 gigawatts of electricity and reduce air pollution by 40 million metric tons of carbon. CHP technical assistance activities continued to focus on addressing the barriers conducting CHP technology assessments and providing the technical tools and expertise necessary to demonstrate to industry how successful CHP</p>	<p>Support the joint DOE-Industry goal of doubling the amount of CHP capacity in the U.S. by 2010, equal to 46 gigawatts of electricity. Propose to conduct CHP technology assessments and provide the technical tools and expertise necessary for documenting how the successes of CHP systems can benefit the industrial building, and district energy sectors. Will also increase awareness of and confidence in CHP technologies for industry, building and district energy. (\$1,950)</p> <p>Participants include: State Energy Offices, Onsite Energy, Washington State University, Oak Ridge National Laboratory,</p>

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
End-Use Interface and Integration (Cont'd)	Verizon, Gas Technology Institute, Industrial Center, Salt River, Onsite Sycom, Northern Indiana Public Service Company, Paramount Chemical.	technologies, and to increase awareness of and confidence in these technologies. Industry completed technology and barrier elimination roadmaps. (\$1,946) Participants include: State Energy Offices, Onsite Energy, Washington State University, Oak Ridge National Laboratory, NYSEDA, So Cal Gas, Verizon, Gas Technology Institute, Industrial Center, Salt River, Onsite Sycom, Northern Indiana Public Service Company, Paramount Chemical.	Northeast, Midwest, ACEEE, NYSEDA, So Cal Gas, Verizon, Gas Technology Institute, Industrial Center, Salt River, Onsite Sycom, Northern Indiana Public Service Company, Paramount Chemical.
	Technical/Program Management Support	Technical/Program Management Support	Technical/Program Management Support
	Included activities which were integral part of the distributed generation technology development program. Representative activities included preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of new legislation on R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance	Included activities which are integral part of the distributed generation technology development program. Representative activities include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of new legislation on R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance	Will include activities which are integral part of the distributed generation technology development program. Representative activities include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of new legislation on R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance

III. Performance Summary: DISTRIBUTED ENERGY RESOURCES (cont.)

Program Activity	FY 2000	FY 2001	FY 2002
	measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$50)	measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$50)	measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$50)
Total, End-Use Systems Integration and Interface	\$4,000	\$1,996	\$2,000
TOTAL, DISTRIBUTED ENERGY RESOURCES	\$48,000	\$45,899	\$45,896

POWER TECHNOLOGIES
(Dollars in Thousands)

MANAGEMENT AND PLANNING

I. Mission Supporting Goals and Objectives:

The Management and Planning function supports the Office of Power Technologies (OPT) by providing sector-level analysis, assessment, evaluation, and planning functions for the Distributed Energy Resources (DER) Program.

Effective management requires efficient organizational design, adequate human resources, sufficient and high quality information and excellent communication both within the organization and with outside parties. Moreover, understanding the potential for increasing the penetration of energy-efficient and clean energy technologies in the power sector and for achieving the correct balance requires a solid analytical foundation. The Management and Planning function provides this foundation the evaluation, planning, analysis, and program direction functions necessary to effectively guide and support all DER programs.

Eight full-time equivalent (FTE) positions, including five at Headquarters and three in the Field, provide program management and support for the Power Technologies program. This program also includes Technical Evaluation, Analysis, and Planning.

II. A. Funding Table: MANAGEMENT AND PLANNING

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Evaluation and Planning	\$ 523	\$ 349	\$ 285	\$ -64	-18.3%
Program Direction	\$ 1,032	\$ 1,098	\$ 1,165	\$ 67	6.1%
Total, Management and Planning	<u>\$ 1,555</u>	<u>\$ 1,447</u>	<u>\$ 1,450</u>	<u>\$ 3</u>	<u>0.2%</u>

II. B. Laboratory and Facility Funding Table: MANAGEMENT AND PLANNING

	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
All Other	\$ 1,555	\$ 1,447	\$ 1,450	\$ 3	0.2%
Total, Management and Planning	<u>\$ 1,555</u>	<u>\$ 1,447</u>	<u>\$ 1,450</u>	<u>\$ 3</u>	<u>0.2%</u>

III. Performance Summary: MANAGEMENT AND PLANNING

Activity	FY 2000	FY 2001	FY 2002
Evaluation and Planning	TRANSFER FROM: Building Technology, State, and Community Sector & Industry Sector Management and Planning	TRANSFER FROM: Building Technology, State, and Community Sector & Industry Sector Management and Planning	
	Evaluation and Planning	Evaluation and Planning	Evaluation and Planning
	Provided technical evaluation, analysis and planning, including development of quality metrics for distributed energy resources. Regionally, assessed and evaluated distributed energy resources, benefits and impact. (\$263)	Provided technical evaluation, analysis and planning, including development of quality metrics for distributed energy resources. Regionally, assess and evaluate distributed energy resources, benefits and impact. (\$99)	Provide technical evaluation, analysis and planning, including development of quality metrics for distributed energy resources. Regionally, will assess and evaluate distributed energy resources, benefits and impact. (\$85)
	Technical/Program Management Support	Technical/Program Management Support	Technical/Program Management Support
	Included activities which are integral part of the distributed generation technology development program. Representative activities included preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of	Included activities which are integral part of the distributed generation technology development program. Representative activities include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of	Includes activities which are integral part of the distributed generation technology development program. Representative activities will include preparation of program, strategic plans, and operating plans; R&D feasibility studies and trade-off analysis; evaluation of the impact of

III. Performance Summary: MANAGEMENT AND PLANNING (Cont'd)

Activity	FY 2000	FY 2001	FY 2002
Evaluation and Planning (Cont'd)	new R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$260)	new R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$250)	new R&D programs; analysis of energy issues pertinent to the R&D program; identification of performance measures and methodologies (including GPRA); data collection to assess program and project performance, efficiency and impacts; and development of performance agreements with management. (\$200)
Total, Evaluation and Planning	\$523	\$349	\$285
Program Direction	TRANSFER FROM: Building Technology, State, and Community Sector & Industry Sector Management and Planning	TRANSFER FROM: Building Technology, State, and Community Sector & Industry Sector Management and Planning	
	The following is a breakdown of the funding by Object Class:	The following is a breakdown of the funding by Object Class:	The following is a breakdown of the funding by Object Class:
	11.9 Personnel compensation \$ 654 12.1 Civilian personnel benefits \$ 163 21.0 Travel and transportation of persons \$ 55 25.0 Other contractual services \$ 0	11.9 Personnel compensation \$ 696 12.1 Civilian personnel benefits \$ 174 21.0 Travel and transportation of persons \$ 60 25.0 Other contractual services \$ 0	11.9 Personnel compensation \$ 736 12.1 Civilian personnel benefits \$ 184 21.0 Travel and transportation of persons \$ 65 25.0 Other contractual services \$ 180

III. Performance Summary: MANAGEMENT AND PLANNING (Cont'd)

Activity	FY 2000	FY 2001	FY 2002
Program Direction (Cont'd)	<p>Provided funds for salaries, benefits, and travel (including normal increases in both salaries and benefits) to support 8 FTEs needed to conduct and monitor research, development, and other activities associated with various power technologies, at Headquarters (5) and in the field (3). Funding under Other Services included activities such as permanent change of station moves, employee training, and a small contingency. (\$872)</p>	<p>Provided funds for salaries, benefits, and travel (including normal increases in both salaries and benefits) to support 8 FTEs needed to conduct and monitor research, development, and other activities associated with various power technologies, at Headquarters (5) and in the field (3). (\$930)</p>	<p>The request provides funds for salaries, benefits, and travel (including normal increases in both salaries and benefits) to support 8 FTEs needed to conduct and monitor research, development, and other activities associated with various power technologies, at Headquarters (5) and in the field (3). (\$985)</p>
	<p>TRANSFER FROM: Industries of the Future (Crosscutting) and Power Technologies, Management and Planning</p>	<p>TRANSFER FROM: Power Technologies, Management and Planning</p>	
	<p>Management Support Services</p>	<p>Management Support Services</p>	<p>Management Support Services</p>
	<p>Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the</p>	<p>Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the</p>	<p>Consistent with other DOE programs under the jurisdiction of the Interior and Related Agencies Appropriations Committees, the</p>

III. Performance Summary: MANAGEMENT AND PLANNING (Cont'd)

Activity	FY 2000	FY 2001	FY 2002
Program Direction (Cont'd)	Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency, and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs. (\$160)	Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency, and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs. (\$168)	Energy Conservation programs provide funding for Management Support Services, which includes activities such as improving the effectiveness, efficiency, and economy of management and general administrative services. These activities are critical to the planning, formulation, and execution of the Energy Conservation programs. (\$180)
Total, Program Direction	\$1,032	\$1,098	\$1,165
TOTAL, MANAGE- MENT AND PLANNING	\$1,555	\$1,447	\$1,450

DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY EFFICIENCY AND RENEWABLE ENERGY
ENERGY CONSERVATION
(Dollars in Thousands)

FY 2002 Power Technologies Comparability Matrix

	New Structure	Power Technologies				
		Distributed Energy Resources		Management and Planning		Total
		Distributed Generation Tech. Development	End-Use Systems Integration and Interface	Evaluation and Planning	Program Direction	
FY 2000 Structure						
FY 2000	Buildings Technology, State and Community Sector					
	Building Research and Standards					
	Equipment, Materials and Tools					
	Space Conditioned & Refrigeration R&D	10,755				10,755
	Cogeneration/Fuel Cells	3,550				3,550
	Management and Planning			440		440
	Evaluation and Planning					
	Program Direction				110	110
	Industry Sector					
	Industries of the Future (Crosscutting)					
	Enabling Technologies					
	Engineered Ceramics/CFCC's	5,500				5,500
	Distributed Generation					
	Industrial Power Generation	24,195		3,000		27,300
	Industrial Distributed Generation			1,000		1,000
Technical Assistance						
Best Practices Program						
Management and Planning						
Evaluation and Planning			83		83	
Program Direction				817	817	
Total		44,000	4,000	523	1,032	49,555

DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY EFFICIENCY AND RENEWABLE ENERGY
ENERGY CONSERVATION
(Dollars in Thousands)

FY 2002 Power Technologies Comparability Matrix

	New Structure	Power Technologies				
		Distributed Energy Resources		Management and Planning		Total
		Distributed Generation Tech. Development	End-Use Systems Integration and Interface	Evaluation and Planning	Program Direction	
FY 2001 Structure						
FY 2001	Buildings Technology, State and Community Sector					
	Building Research and Standards					
	Equipment, Materials and Tools					
	Space Conditioned & Refrigeration R&D	15,667				15,667
	Cogeneration/Fuel Cells	5,487				5,487
	Management and Planning					
	Evaluation and Planning			349		349
	Program Direction				200	200
	Industry Sector					
	Industries of the Future (Crosscutting)					
	Enabling Technologies					
	Engineered Ceramics/CFCC's	5,488				5,488
	Distributed Generation					
	Industrial Power Generation	17,261		998		18,259
	Industrial Distributed Generation			998		998
Technical Assistance						
Best Practices Program					0	
Management and Planning						
Evaluation and Planning					0	
Program Direction				898	898	
Total		43,903	1,996	349	1,098	47,346

DEPARTMENT OF ENERGY
FY 2002 CONGRESSIONAL BUDGET REQUEST
ENERGY EFFICIENCY AND RENEWABLE ENERGY
ENERGY CONSERVATION
(Tabular dollars in thousands, Narrative in whole dollars)

POLICY AND MANAGEMENT

PROGRAM MISSION

Mission

Policy and Management provides the executive management, information, analysis, and oversight required for the efficient and effective implementation of the Energy Efficiency program. In addition, Policy and Management supports the six Regional Offices, and the Golden Field Office in Colorado, which implement EERE activities regionally and facilitate delivery of applied R&D and grant programs to Federal, regional, State, and local customers.

Program Goal and Benefits

Policy and Management provides staffing, resources, and management support for EERE sector offices (Headquarters), the Golden Field Office, EERE's Regional Offices, the International Market Development Program (IMDP), and the Information and Communications Program. EERE Staffing and Contractual Services are described at the end of this section.

Headquarters

These funds support the staff and resources necessary for efficient and effective corporate management, oversight, and leadership. EERE faces three major institutional management challenges: (1) EERE programs are numerous and diverse, making management and integration at the corporate level very complex; (2) EERE complies with multiple external requirements, such as GPRA, that require a broad spectrum of information to be delivered at different times of the year; and (3) EERE's customer base is very fragmented and therefore information preparation and delivery is complicated. Prior to 1999, EERE received criticism from both external and internal sources concerning its business practices and overall management. In assessing these criticisms, the Assistant Secretary obtained independent evaluations on the effectiveness of management within EERE, including a review by the National Academy of Public Administration (NAPA). One criticism

common to all of the independent reviews was that EERE did not have a systematic, disciplined approach to the fundamental business of planning, budget development, program execution, and program evaluation.

During the past year, EERE has initiated numerous reforms to address these criticisms, including:

- Creating the Office of Planning, Budget, and Management (PBM) in September 1999, to unify previously disparate functions into one organization and hiring EERE's first Chief Operating Officer, responsible for overseeing all planning, budget, management, and evaluation activities.
- Implementation of a Strategic Management System in January 2000, that provides an integrated corporate approach to planning, budget development, budget execution, and program evaluation across the organization.
- Issuing an EERE-wide Strategic Plan in March 2000 that set forth the goals, objectives, and strategies for the entire organization.
- Implementing new business management systems that provides managers with critical desktop tools to track technical progress against costs and schedules.
- Initiating improved procurement planning during the past six months.
- Initiating several efforts to clarify the roles and responsibilities of EERE's Headquarters, Field, and laboratory organizations, and hiring EERE's first Director of Field Management and Operations.
- Completing internal reorganizations, including the establishment of a Distributed Energy Office to improve program delivery.

The Office of Planning, Budget, and Management has six functional areas that support the effective and efficient operations of the EERE enterprise:

Planning, Analysis, and Evaluation. Provides relevant and timely planning and analysis to support executive decision-making in the areas of resource allocation, budget formulation, performance measurement, and technology assessment. It also provides analyses of performance, planning, and budget issues. The Planning office manages the development and evaluation of EERE's annual Government Performance and Results Act (GPRA) metrics and updates of the EERE Strategic Plan; coordinates the inclusion of program performance measures in the EERE budget; represents EERE in the development of the annual DOE Performance Plan, Secretary's Performance Agreement with the President, and Accountability Report, DOE's Strategic Plan, the biannual National Energy Policy Plan, and other DOE or Administration documents.

Budgeting and Financial Management. Provides timely and effective budget formulation and execution services based on sound planning, advances information technologies, supports EERE's technology development process, and complies with all external requirements.

Outreach. Communicates the EERE mission, program plans, accomplishments, and technology capabilities to a variety of stakeholder audiences including Congress, the public, educational institutions, industry, and other government and non-government organizations. The Outreach office writes testimony and prepares briefing books; coordinates answers to Congressional questions (between 600-1000

per year); prepares speeches and presentations by EE-1 and others when requested; manages the Energy Efficiency and Renewable Energy Network web site, (EREN), and the Energy Efficiency and Renewable Energy Clearinghouse, (EREC); and coordinates reviews of EERE-related statements by other DOE offices and Federal agencies.

Human Resources and Organization Management. Aligns EERE's human resources to achieve optimal program efficiency and effectiveness, while ensuring that the contribution of each staff member is valued and recognized by ensuring that management and staff work together to define each person's role, and providing the proper support, training, and tools to fulfill that role.

Information Technology. Promotes the use of advanced information technology to revolutionize EERE's operating environment by: (1) streamlining business processes; (2) improving stakeholder and public access to individual R&D programs; (3) using common information protocols to improve the accessibility of information and ease data validation; and (4) making systems easier to use.

Field Management and Operations. Institutionalizes a corporate approach to field management and reporting by improving collaboration, clearly delineating and defining the roles, responsibilities, and authorities among all participants, and embracing environmental safety and health. In addition, the organization carries out EERE's acquisition/procurement process, ensuring that it (1) is clearly defined; (2) is consistent across EERE Headquarters and Field Organizations; (3) complies with DOE policies and practices; (4) includes early needs assessment and ongoing accountability; (5) clarifies office authorities; and (6) properly acquires goods and services in a timely and efficient manner.

Golden Field Office

The Golden Field Office (GO) supports EERE through field project management of R&D partnerships, laboratory contract administration, and a variety of professional, technical, and administrative functions. Additionally, GO provides management support for approximately 450 agreements and some 300 active projects in nearly every State and in several other nations to support the EERE Offices of Buildings, Industry, Power, and Transportation Technologies. Key activities include:

- Administering the management and operating contract for the National Renewable Energy Laboratory (NREL).
- Managing the Federal Energy Management Program (FEMP) Super Energy Savings Performance Contracts and serving as the focal point for FEMP finance and procurement activities.
- Providing procurement, legal, business management, information resource management, and technical support to the six EERE Regional Offices.
- Supporting the Inventions and Innovations Program and the National Industrial Competitiveness through Energy, the Environment and Economics Program (NICE³).
- Partnering with industry and academia in joint R&D projects to further develop and facilitate delivery of applied R&D.

Regional Offices

EERE's six Regional Offices (ROs), located in Atlanta, Boston, Chicago, Denver, Philadelphia, and Seattle, catalyze the implementation of energy-efficient and renewable energy strategies at the State and local level by working with States and communities to promote EERE programs; identifying and engaging community and State partners; and integrating EERE programs with public and private sector activities. The ROs have 124 Full-Time Equivalents in FY 2002, almost a quarter of EERE's workforce, and administer over \$200 million in program funding to States, localities, and regional organizations.

The ROs role in administering grants, managing projects, and delivering programs that accelerate market penetration of energy efficiency and renewable energy technologies plays a key role in implementing EERE's mission. Key activities include:

- Administering EERE's principal technology deployment grant programs, including the Weatherization Assistance Program, the State Energy Program, and the Regional Biomass Energy Program.
- Delivering EERE's principal technical assistance programs, including Clean Cities, Rebuild America, and the Federal Energy Management Program.
- Serving as EERE's liaison to State Energy Offices, other State agencies, regional organizations of the National Governors' Association, and other stakeholders involved in energy and environmental quality issues.
- Providing EERE's national program managers with customer feedback on how to make their programs more effective and efficient.
- Supporting and helping deliver special initiatives of the President, Secretary, and Assistant Secretary.
- Creating local, State, and regional partnerships—and leveraging local, State, and regional resources—to maximize the impact of EERE's technologies and programs.
- Helping EERE's end-use sectors deliver their programs to State and local stakeholders.



International Market Development Program

No funding is requested for the International Market Development Program (IMDP) in FY 2002 due to shifting priorities and an increased focus on "target" nations as opposed to global efforts.

Information and Communications Program

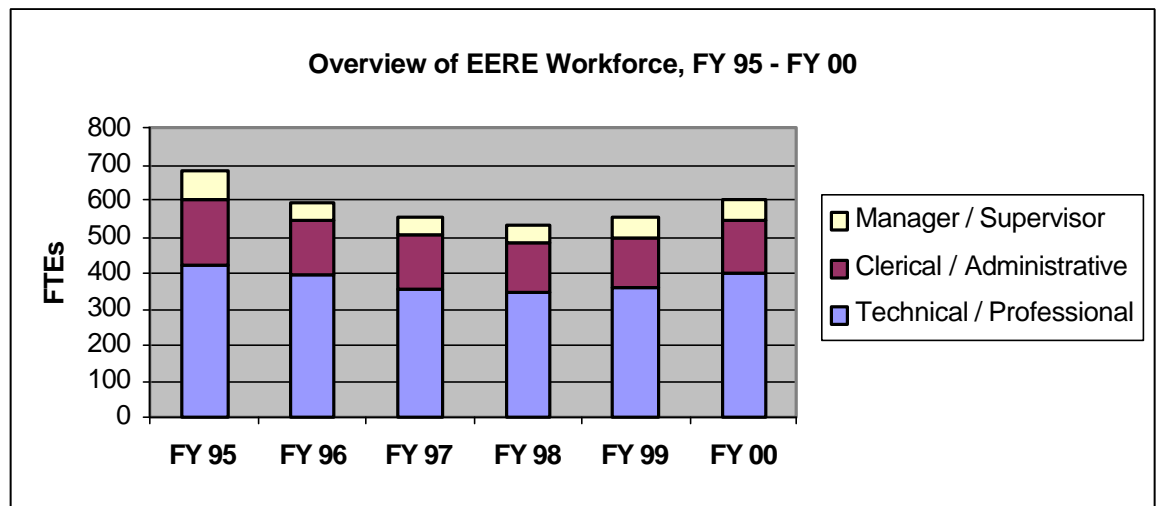
The Information and Communications Program disseminates information about the benefits of energy efficiency and renewable energy technologies to stakeholders and consumers at the Federal, State, local, and individual level. The objectives of the program are: (1) provide accurate information on energy efficiency and renewable energy technologies to the public so EERE's customers can make informed decisions in the marketplace, resulting in an increase in the adoption of EERE efficiency technologies and efficient energy practices; and (2) raise the general awareness of the state-of-the-art in energy efficiency technologies and practices. This is accomplished through a variety of mechanisms including the Energy Efficiency and Renewable Energy Clearinghouse (EREC) and the Energy Efficiency and Renewable Energy Network (EREN).

EREC is the nation's primary source for free, unbiased information about energy efficiency and renewable energy technologies. EREC has responded to over 500,000 inquiries since 1994 through its toll-free number (1-800-DOE-EREC), fax, mail, e-mail, and online "ask an energy expert" forum. Additionally, in FY 2000, EREC stored close to 1 million information products for EERE, maintained 1,500 different product titles listed in its inventory, disseminated a total of 241,196 information products for EERE end-use sectors, and responded to over 60,000 inquiries for information, while maintaining an over 95 percent customer satisfaction rating.

EREN is EERE's comprehensive technology directory and gateway to EERE offices and programs. As the leading Internet directory of energy efficiency and renewable energy resources (located at www.eren.doe.gov), EREN targets information for energy professionals and the general public. In FY 2000, the network averaged over 9 million "hits" per month.

Staffing

Because EERE efforts focus primarily on RD&D, technical and professional staff make up the majority of the workforce (see chart below). However, with an aging workforce typical of government agencies, and decreased FTE allowances in the mid-1990s, EERE faces the prospect of a severe labor shortage in the next few years despite increasing budgets in FY 1999 and FY 2000. These issues are exacerbated by historical factors since many of the employees released during the budget cuts of the 1980s were staff in the early phases of their careers who otherwise would now be starting to replace the current generation of senior technicians and managers.



In fact, between FY 1995 and FY 1998, the number of technical/professional positions decreased from 418 to 342 employees. **Of more immediate importance, 25 percent (131) of the current EERE technical/ professional employees will be eligible for retirement over the next 3 years.**

EERE is working hard to reverse these trends. The organization is accelerating recruitment from industry, universities, and other DOE offices or Federal agencies, as well as offering positions to talented new graduates. These efforts are beginning to pay off as EERE benefits from the inflow of fresh and diverse ideas and perspectives.

The following chart summarizes the staffing supporting the Policy and Management line-item:

FTEs	FY2000	FY 2001	FY 2002
Headquarters	64	59	58
Golden Field Office	31	30	34
Regional Offices	116	131	124
Totals	211	220	216

Contractual Services

Contractual Services for program management at Headquarters, the Golden Field Office, and the Regional Offices include all landlord activities such as rent, utilities, communications, printing, supplies and materials, and transportation. In addition, Headquarters and Field contractor staff provide independent expertise to assist with technical and financial analyses in a cost effective manner. This expertise is required in the areas of: (1) program evaluation and analysis; (2) performance measurement to enhance the R&D productivity; (3) information exchange with customers and stakeholders; and (4) technical analysis of policies, standards, and markets.

DEPARTMENT OF ENERGY
 FY 2002 CONGRESSIONAL BUDGET REQUEST
 ENERGY CONSERVATION
 (Dollars in Thousands)

POLICY AND MANAGEMENT

PROGRAM FUNDING PROFILE

Program Activity	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	Program Change Request vs. FY 2001	
				Dollar	Percent
Policy and Management Operating Expenses	\$ 42,866	\$ 43,274	\$ 40,100	\$ -3,174	-7.3%
TOTAL	\$ 42,866	\$43,274^a	\$ 40,100	\$ -3,174	-7.3%
Summary					
Operating Expenses	\$ 42,866	\$ 43,274	\$ 40,100	\$ -3,174	-7.3%
Total Program	\$ 42,866	\$ 43,274	\$ 40,100	\$ -3,174	-7.3%
Staffing (FTEs)					
HQ FTEs	64	59	58		
Field FTEs	147	161	158		
Total FTEs	211	220	216		

Authorizations:

- P.L. 94-163, "Energy Policy and Conservation Act" (EPCA) (1975)
- P.L. 94-385, "Energy Conservation and Production Act" (ECPA) (1976)
- P.L. 95-91, "Department of Energy Organization Act" (1977)

P.L. 95-618, "Energy Tax Act of 1978"
P.L. 95-619, "National Energy Conservation Policy Act" (NECPA) (1978)
P.L. 96-294, "Energy Security Act" (1980)
P.L.102-486, "Energy Policy Act of 1992"

^{a/} Reflects adjustment of \$-95,000 for Omnibus Rescission, P.L. 106-554.

DEPARTMENT OF ENERGY
 FY 2002 CONGRESSIONAL BUDGET REQUEST
 ENERGY CONSERVATION
 (Dollars in Thousands)

POLICY AND MANAGEMENT

SUMMARY OF CHANGES

	FY 2002 Request
FY 2001 Comparable	\$ 43,274
Non-Discretionary	
- Increase for Federal Pay Raise and Locality Pay	1,176
- Increase for Federal Personnel Transit Subsidy	29
- Increase for Working Capital Fund	89
- Increase for Other (Rent for Regional Offices)	95
FY 2002 Base	\$ 44,663
<u>Policy and Management:</u>	
- Salaries and Related Expenses (HQ) - Reflects a reduction primarily for one FTE in FY 2002 as offset by discretionary payroll increases.	-104
- Contractual Services (HQ) - Reflects increases to implement new business process and systems relevant to NAPA business improvements.	+119
- Salaries and Related Expenses (Golden Field Office) - Increase primarily for 4 additional FTEs and discretionary payroll increases.	+432
- Contractual Services (Golden Field Office) - Reduction primarily for support services.	-248
- Salaries and Related Expenses (Regional Offices) - Reflects a reduction for 7 FTEs in FY 2002 as offset by discretionary payroll increases.	-1,653

- Contractual Services (Regional Offices) - Primarily reflects reduced landlord costs.	-509
- International Market Development Program - Reflects priority setting and increased focus on “target” nations as compared to global efforts.	-2,600
FY 2002 Congressional Budget Request.	<u>\$ 40,100</u>

II. A. Funding Table: POLICY AND MANAGEMENT

Program Activity	FY2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Headquarters					
Salaries and Related Expenses	\$ 6,125	\$ 6,490	\$ 6,750	\$ 260	4.0%
Contractual Services	\$ 11,612	\$ 10,377	\$ 10,585	\$ 208	2.0%
Subtotal Headquarters	\$ 17,737	\$ 16,867	\$ 17,335	\$ 468	2.8%
Golden Field Office					
Salaries and Related Expenses	\$ 3,203	\$ 3,315	\$ 3,960	\$ 645	19.5%
Contractual Services	\$ 2,287	\$ 2,453	\$ 2,205	\$ -248	-10.1%
Subtotal Golden Field Office	\$ 5,490	\$ 5,768	\$ 6,165	\$ 397	6.9%
Regional Offices					
Salaries and Related Expenses	\$ 10,277	\$ 12,428	\$ 11,403	\$ -1,025	-8.2%
Contractual Services	\$ 5,212	\$ 4,061	\$ 3,647	\$ -414	-10.2%
Subtotal Regional Offices	\$ 15,489	\$ 16,489	\$ 15,050	\$ -1,439	-8.7%
International Market Development Program	\$ 2,600	\$ 2,600	\$ 0	\$ -2,600	-100.0%
Information and Communications Program	\$ 1,550	\$ 1,550	\$ 1,550	\$ 0	0.0%
Total, Policy and Management	\$ 42,866	\$ 43,274	\$ 40,100	\$ -3,174	-7.3%

II. B. Laboratory and Facility Funding Table: POLICY AND MANAGEMENT

	FY 2000 Comparable	FY 2001 Comparable	FY 2002 Request	\$ Change	% Change
Golden Field Office	\$ 5,490	\$ 5,768	\$ 6,165	\$ 397	6.9%
Regional Offices	\$ 15,489	\$ 16,489	\$ 15,050	\$ -1,439	-8.7%
All Other	\$ 21,887	\$ 21,017	\$ 18,885	\$ -2,132	-10.1%
Total, Policy and Management	<u>\$ 42,866</u>	<u>\$ 43,274</u>	<u>\$ 40,100</u>	<u>\$ -3,174</u>	<u>-7.3%</u>

III. Performance Summary: POLICY AND MANAGEMENT

Program Activity	FY 2000	FY 2001	FY 2002																														
Headquarters - Salaries and Related Expenses	<p>The following is a breakdown of the funding by Object Class:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">11.9 Personnel compensation</td> <td style="text-align: right;">\$ 4,574</td> </tr> <tr> <td>12.1 Civilian personnel benefit</td> <td style="text-align: right;">\$ 1,216</td> </tr> <tr> <td>21.0 Travel and transportation of persons</td> <td style="text-align: right;">\$ 335</td> </tr> <tr> <td>22.0 Transportation of things</td> <td style="text-align: right;">\$ 30</td> </tr> <tr> <td>25.0 Other contractual services</td> <td style="text-align: right;">\$ 11,731</td> </tr> </table> <p>Supported 64 FTEs for the executive management activities at HQ. Provided adjustments resulting from Workforce 21 plans. Activities supported include: liaison with senior officials in Congress, the White House, OMB, and other agencies as well as State and local governments, and the private sector.</p> <p>These activities also provided for the formulation and operation of the EERE programs including: establishing goals and objectives for the programs; assessing performance and effectiveness; and supporting the FY 1992 Energy Policy Act requirements and the Government Performance and Results Act. Total obligational authority of \$17,886,000 included \$149,000 from FY 1999 unobligated carryover. (\$6,125)</p>	11.9 Personnel compensation	\$ 4,574	12.1 Civilian personnel benefit	\$ 1,216	21.0 Travel and transportation of persons	\$ 335	22.0 Transportation of things	\$ 30	25.0 Other contractual services	\$ 11,731	<p>The following is a breakdown of the funding by Object Class:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">11.9 Personnel compensation</td> <td style="text-align: right;">\$ 4,850</td> </tr> <tr> <td>12.1 Civilian personnel benefits</td> <td style="text-align: right;">\$ 1,290</td> </tr> <tr> <td>21.0 Travel and transportation of persons</td> <td style="text-align: right;">\$ 350</td> </tr> <tr> <td>22.0 Transportation of things</td> <td style="text-align: right;">\$ 0</td> </tr> <tr> <td>25.0 Other contractual services</td> <td style="text-align: right;">\$10,377</td> </tr> </table> <p>Supports 59 FTEs for the continued executive management activities at HQ including the implementation of Workforce 21 plans. Activities to be continued include: liaison with senior officials in Congress, the White House, OMB, and other agencies as well as State and local governments, and the private sector.</p> <p>These activities also provide for the continued formulation and operation of the EERE programs including: establishing goals and objectives for the programs; assessing performance and effectiveness; supporting the FY 1992 Energy Policy Act requirements and the Government Performance and Results Act, development of a comprehensive plan that will focus on building and sustaining a talented and diverse workforce of R&D Technical Managers. (\$6,490)</p>	11.9 Personnel compensation	\$ 4,850	12.1 Civilian personnel benefits	\$ 1,290	21.0 Travel and transportation of persons	\$ 350	22.0 Transportation of things	\$ 0	25.0 Other contractual services	\$10,377	<p>The following is a breakdown of the funding by Object Class:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">11.9 Personnel compensation</td> <td style="text-align: right;">\$ 5,050</td> </tr> <tr> <td>12.1 Civilian personnel benefits</td> <td style="text-align: right;">\$ 1,345</td> </tr> <tr> <td>21.0 Travel and transportation of persons</td> <td style="text-align: right;">\$ 355</td> </tr> <tr> <td>22.0 Transportation of things</td> <td style="text-align: right;">\$ 0</td> </tr> <tr> <td>25.0 Other contractual services</td> <td style="text-align: right;">\$10,585</td> </tr> </table> <p>The FY 2002 Request supports 58 FTEs to provide for the continued executive management activities at HQ including the implementation of Workforce 21 plans. Activities to be continued include: liaison with senior officials in Congress, the White House, OMB, and other agencies as well as State and local governments, and the private sector.</p> <p>These activities also provide for the continued formulation and operation of the EERE programs including: establishing goals and objectives for the programs; assessing performance and effectiveness; and supporting the FY 1992 Energy Policy Act requirements and the Government Performance and Results Act (\$6,750)</p>	11.9 Personnel compensation	\$ 5,050	12.1 Civilian personnel benefits	\$ 1,345	21.0 Travel and transportation of persons	\$ 355	22.0 Transportation of things	\$ 0	25.0 Other contractual services	\$10,585
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III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Total, Headquarters - Salaries and Related Expenses	\$6,125	\$6,490	\$6,750
Headquarters - Contractual Services	<p>Working Capital Fund (WCF)</p> <p>A total of \$4,501,000 supported WCF administrative services such as: rent, automated office support, contract close out, telephone services, postage, printing and graphics, and similar services. A total of \$3,126,000 was for rent in FY 2000. (\$4,501)</p> <p>Crosscutting and Contractual Support</p> <p>Supported crosscutting functions, analytical research, enhanced performance measurement and program evaluation activities, including strategic planning; budget formulation and execution; procurement; stakeholder outreach; and personnel management. (\$7,111)</p>	<p>Working Capital Fund (WCF)</p> <p>A total of \$4,725,000 for the WCF supports all administrative services for headquarters employees such as: rent, automated office support, contract close out, telephone services, postage, printing and graphics, and similar services. An estimated \$3,255,000 will be needed for rent in FY2001. (\$4,725)</p> <p>Crosscutting and Contractual Support</p> <p>Supports crosscutting functions, analytical research, enhanced performance measurement and program evaluation activities, including strategic planning; budget formulation and execution; procurement; stakeholder outreach; and personnel management. (\$5,652)</p>	<p>Working Capital Fund (WCF)</p> <p>The request supports \$4,960,000 for WCF activities such as administrative services, rent (\$4,819,000), automated office support, contract close out, telephone services, postage, printing, graphics, and similar services. (\$4,960)</p> <p>Crosscutting and Contractual Support</p> <p>Perform analytical services and independent reviews in support of cross-cutting program objectives and program performance measures. Peer review EERE program performance to provide feedback to research programs. Program management support for information technology, outreach, communication, procurement and human resources management. (\$5,625)</p>

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002																																																																		
Total, Headquarters - Contractual Services	\$11,612	\$10,377	\$10,585																																																																		
Total, Headquarters	\$17,737	\$16,867	\$17,335																																																																		
Golden Field Office - Salaries and Related Expenses	<p>The following is a breakdown of the funding by Object Class for the Golden Field Office:</p> <table border="0"> <tr><td>11.9 Personnel compensation</td><td style="text-align: right;">\$2,498</td></tr> <tr><td>12.1 Civilian personnel benefits</td><td style="text-align: right;">\$ 577</td></tr> <tr><td>21.0 Travel and transportation of persons</td><td style="text-align: right;">\$ 128</td></tr> <tr><td>22.0 Transportation of things</td><td style="text-align: right;">\$ 21</td></tr> <tr><td>23.2 Rental payments to GSA and others</td><td style="text-align: right;">\$ 212</td></tr> <tr><td>23.3 Communications, utilities, and miscellaneous charges</td><td style="text-align: right;">\$ 74</td></tr> <tr><td>24.0 Printing and reproduction</td><td style="text-align: right;">\$ 2</td></tr> <tr><td>25.1 Advisory and assistance services</td><td style="text-align: right;">\$1,540</td></tr> <tr><td>25.2 Other services (training, service agreements, etc.)</td><td style="text-align: right;">\$ 276</td></tr> <tr><td>26.0 Supplies and materials</td><td style="text-align: right;">\$ 63</td></tr> <tr><td>31.0 Equipment</td><td style="text-align: right;">\$ 99</td></tr> </table> <p>Supported 31 FTEs to permit the continued operation of the Golden Field Office and adjustments resulting from Workforce 21 plans.</p> <p>GO managed and administered the Management and Operating contract for NREL and acted as the Federal</p>	11.9 Personnel compensation	\$2,498	12.1 Civilian personnel benefits	\$ 577	21.0 Travel and transportation of persons	\$ 128	22.0 Transportation of things	\$ 21	23.2 Rental payments to GSA and others	\$ 212	23.3 Communications, utilities, and miscellaneous charges	\$ 74	24.0 Printing and reproduction	\$ 2	25.1 Advisory and assistance services	\$1,540	25.2 Other services (training, service agreements, etc.)	\$ 276	26.0 Supplies and materials	\$ 63	31.0 Equipment	\$ 99	<p>The following is a breakdown of the funding by Object Class for the Golden Field Office:</p> <table border="0"> <tr><td>11.9 Personnel compensation</td><td style="text-align: right;">\$ 2,525</td></tr> <tr><td>12.1 Civilian personnel benefits</td><td style="text-align: right;">\$ 630</td></tr> <tr><td>21.0 Travel and transportation of persons</td><td style="text-align: right;">\$ 160</td></tr> <tr><td>22.0 Transportation of things</td><td style="text-align: right;">\$ 10</td></tr> <tr><td>23.2 Rental payments to GSA and others</td><td style="text-align: right;">\$ 212</td></tr> <tr><td>23.3 Communications, utilities, and miscellaneous charges</td><td style="text-align: right;">\$ 75</td></tr> <tr><td>24.0 Printing and reproduction</td><td style="text-align: right;">\$ 2</td></tr> <tr><td>25.1 Advisory and assistance services</td><td style="text-align: right;">\$1,645</td></tr> <tr><td>25.2 Other services (training, service agreements, etc.)</td><td style="text-align: right;">\$ 394</td></tr> <tr><td>26.0 Supplies and materials</td><td style="text-align: right;">\$ 65</td></tr> <tr><td>31.0 Equipment</td><td style="text-align: right;">\$ 50</td></tr> </table> <p>The FY 2001 appropriation supports 30 FTEs to permit the continued operation of the</p> <p>GO manages and administers the Management and Operating contract for NREL and acts as the Federal manager for NREL program</p>	11.9 Personnel compensation	\$ 2,525	12.1 Civilian personnel benefits	\$ 630	21.0 Travel and transportation of persons	\$ 160	22.0 Transportation of things	\$ 10	23.2 Rental payments to GSA and others	\$ 212	23.3 Communications, utilities, and miscellaneous charges	\$ 75	24.0 Printing and reproduction	\$ 2	25.1 Advisory and assistance services	\$1,645	25.2 Other services (training, service agreements, etc.)	\$ 394	26.0 Supplies and materials	\$ 65	31.0 Equipment	\$ 50	<p>The following is a breakdown of the funding by Object Class for the Golden Field Office:</p> <table border="0"> <tr><td>11.9 Personnel compensation</td><td style="text-align: right;">\$3,030</td></tr> <tr><td>12.1 Civilian personnel benefits</td><td style="text-align: right;">\$ 760</td></tr> <tr><td>21.0 Travel and transportation of persons</td><td style="text-align: right;">\$ 170</td></tr> <tr><td>22.0 Transportation of things</td><td style="text-align: right;">15</td></tr> <tr><td>23.2 Rental payments to GSA and others</td><td style="text-align: right;">\$ 212</td></tr> <tr><td>23.3 Communications, utilities, and miscellaneous charges</td><td style="text-align: right;">\$ 80</td></tr> <tr><td>24.0 Printing and reproduction</td><td style="text-align: right;">\$ 5</td></tr> <tr><td>25.1 Advisory and assistance services</td><td style="text-align: right;">\$1,625</td></tr> <tr><td>25.2 Other services (training, service agreements)</td><td style="text-align: right;">\$ 153</td></tr> <tr><td>26.0 Supplies and materials</td><td style="text-align: right;">\$ 65</td></tr> <tr><td>31.0 Equipment</td><td style="text-align: right;">\$ 50</td></tr> </table> <p>The request supports the continued operation of the Golden Field Office including 34 FTEs for program management activities such as monitoring and evaluating laboratory work and reviewing and funding research proposals, contract and technical management of projects</p>	11.9 Personnel compensation	\$3,030	12.1 Civilian personnel benefits	\$ 760	21.0 Travel and transportation of persons	\$ 170	22.0 Transportation of things	15	23.2 Rental payments to GSA and others	\$ 212	23.3 Communications, utilities, and miscellaneous charges	\$ 80	24.0 Printing and reproduction	\$ 5	25.1 Advisory and assistance services	\$1,625	25.2 Other services (training, service agreements)	\$ 153	26.0 Supplies and materials	\$ 65	31.0 Equipment	\$ 50
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III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Golden Field Office - Salaries and Related Expenses (Cont'd)	manager for NREL program planning and execution, budget and financial management, information resource management, environment safety and health, and various other program functions. Approximately half of the EERE program at NREL supported Energy Conservation programs including significant efforts in areas such as Alternative Fuels Utilization, Electric and Hybrid Propulsion, Building Systems Research, and Industrial Separations. GO also manages a wide variety of programs by contracting with commercial vendors, non-profit entities, and colleges and universities. (\$3,203)	planning and execution, budget and financial management, information resource management, environment safety and health, and various other program functions. Approximately half of the EERE program at NREL supports Energy Conservation programs such as Alternative Fuels Utilization, Electric and Hybrid Propulsion, Building Systems Research, and Industrial Separations. GO also manages a wide variety of programs by contracting with commercial vendors, non-profit entities, and colleges and universities. (\$3,315)	with universities, and commercial vendors, and field management of the Management and Operating contract for NREL. (\$3,960)
Total, Golden Field Office - Salaries and Related Expenses	\$3,203	\$3,315	\$3,960
Golden Field Office - Contractual Services	A total of \$2,287,000 was for landlord activities including contractual services associated with the operation of the Golden Field Office. (\$2,287)	A total of \$2,453,000 supports landlord activities including contractual services associated with the operation of the Golden Field Office. (\$2,453)	The request provides \$2,205,000 for landlord activities to support infrastructure and supplies to maintain the operation of the Golden Field Office and help in the implementation of the EERE mission. (\$2,205)

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Total, Golden Field Office - Contractual Services	\$2,287	\$2,453	\$2,205

Total, Golden Field Office	\$5,490	\$5,768	\$6,165
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Regional Offices - Salaries and Related Expenses

The following is a breakdown of the funding by Object Class for the Regional Offices:

11.9 Personnel compensation	\$ 7,294
12.1 Civilian personnel benefits	\$ 2,075
13.1 Benefits for former personnel	\$ 0
21.0 Travel and transportation of persons	\$ 908
22.0 Transportation of things	\$ 97
23.1 Rental payments to GSA	\$ 1,678
23.2 Rental payments to others	\$ 105
23.3 Communication, utilities, misc. charges	\$ 357
24.0 Printing and reproduction	\$ 40
25.1 Advisory and assistance services and other services	\$ 2,083
25.3 Purchases of goods/services from Govt. accounts	\$ 268
25.7 Operation and maintenance of equipment	\$ 71
26.0 Supplies and materials	\$ 178
31.0 Acquisition of equipment: ADP equipment	\$ 335

A total of \$15,489,000 provided for the continued operation of the Regional Offices (ROs) in FY 2000. Of this total, \$10,277,000 supported

The following is a breakdown of the funding by Object Class for the Regional Offices:

11.9 Personnel compensation	\$ 8,972
12.1 Civilian personnel benefits	\$ 2,243
13.1 Benefits for former personnel	\$ 0
21.0 Travel and transportation of persons	\$ 1,213
22.0 Transportation of things	\$ 60
23.1 Rental payments to GSA	\$ 1,968
23.2 Rental payments to others	\$ 87
23.3 Communication, utilities, misc. charges	\$ 395
24.0 Printing and reproduction	\$ 43
25.1 Advisory and assistance services and other services	\$ 416
25.3 Purchases of goods/services from Govt. accounts	\$ 270
25.7 Operation and maintenance of equipment	\$ 108
26.0 Supplies and materials	\$ 192
31.0 Acquisition of equipment: ADP equipment	\$ 522

A total of \$16,489,000 provides for the continued operation of the Regional Offices (ROs) in FY 2001. A total of 131 FTEs implement

The following is a breakdown of the funding by Object Class for the Regional Offices:

11.9 Personnel compensation	\$ 9,003
12.1 Civilian personnel benefits	\$ 2,250
13.1 Benefits for former personnel	\$ 0
21.0 Travel and transportation of persons	\$ 150
22.0 Transportation of things	\$ 0
23.1 Rental payments to GSA	\$ 2,062
23.2 Rental payments to others	\$ 88
23.3 Communication, utilities, misc. charges	\$ 478
24.0 Printing and reproduction	\$ 25
25.1 Advisory and assistance services and other services	\$ 719
25.3 Purchases of goods/services from Govt. accounts	\$ 100
25.7 Operation and maintenance of equipment	\$ 15
26.0 Supplies and materials	\$ 160
31.0 Acquisition of equipment: ADP equipment	\$ 0

The request of \$15,050,000 provides for the continued operation of the Regional Offices with a total of 124 FTEs. This will support field

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Regional Offices - Salaries and Related Expenses (Cont'd)	<p>116 FTEs at the ROs. The staff continued to implement technology deployment activities to promote partnering with customers and stakeholders in the field. Also, the ROs facilitated and promoted energy-related planning at state and local government levels; reported to Headquarters on partnerships and opportunities with constituent communities for EERE; provided limited technical assistance for state grants; and represented EERE interests through regional organizations.</p> <p>In FY 2000 the Regional Offices supported closer collaboration with State organizations on energy efficiency technology development and deployment. (\$10,277)</p>	<p>technology deployment activities to promote partnering with customers and stakeholders in the field. Also, the ROs facilitate and promote energy-related planning at state and local government levels; report to Headquarters on partnerships and opportunities with constituent communities for EERE; provide limited technical assistance for state grants; and represent EERE interests through regional organizations.</p> <p>The additional FTEs in FY 2001 primarily provide support for the increased workload resulting from expanded programs such as planned initiatives relating to utility restructuring, Clean Air Act reauthorization, etc. (\$12,428)</p>	<p>management technology deployment activities; energy-related planning at state and local levels; and grant administration. (\$11,403)</p>
Total, Regional Offices - Salaries and Related Expenses	\$10,277	\$12,428	\$11,403
Regional Offices - Contractual Services	<p>A total of \$5,212,000 supported the continued operation of the six Regional Offices contractual services including such activities as rent, utilities, communications, printing, supplies and materials,</p>	<p>A total of \$4,061,000 supports contractual services for the continued operation of the six Regional Offices. Contractual services include such activities as rent, utilities, communications,</p>	<p>The request provides \$3,647,000 for all landlord activities to support the continued operation of the Regional Offices. (\$3,647)</p>

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Regional Offices - Contractual Services (Cont'd)	advisory and assistance services. (\$5,212)	printing, supplies and materials, and advisory and assistance services. (\$4,061)	
Total, Regional Offices - Contractual Services	\$5,212	\$4,061	\$3,647
Total, Regional Offices	\$15,489	\$16,489	\$15,050
International Market Development	<p>Committee on Energy Efficiency Commerce and Trade (COEECT) Provided trade and seminar mission opportunities to the US energy efficiency industry in China, the Philippines, East Asia, Mexico and Brazil; conducted market conditioning activities in Asia and Latin America; provide for peer exchange programs in China, Central and Eastern Europe, Poland and Brazil; and disseminated information on financing options for U.S. energy efficiency companies. (\$1,200)</p> <p>Promoted continued access to Energy Efficiency Centers through contracted work and Internet and linkage to COEECT activities. (\$100)</p>	<p>Committee on Energy Efficiency Commerce and Trade (COEECT) Continues to develop and implement an international strategy for U.S. energy efficiency industries; conduct trade missions to emerging markets; utilize local experts to assist U.S. firms in identifying viable customers; continued focus on Asia markets and increased focus on Latin America. (\$1,200)</p> <p>Promote continued access to Energy Efficiency Centers through contracted work and Internet and linkage to COEECT activities. (\$100)</p>	<p>Committee on Energy Efficiency Commerce and Trade (COEECT) No funding is requested. (\$0)</p>

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
International Market Development (Cont'd)	<p>Center for the Analysis and Dissemination of Demonstrated Technologies (CADET)</p> <p>Provided support for U.S. participation in this international cooperative effort. Supported collection and dissemination of information on EERE technologies. Provided U.S. industry data on innovative applications of EE technologies in other countries. Conducted workshops to increase worldwide awareness of EE products and services. (\$660)</p>	<p>Center for the Analysis and Dissemination of Demonstrated Technologies (CADET)</p> <p>Continue support for U.S. participation in this international cooperative effort. Support collection and dissemination of information on EERE technologies. Provide U.S. industry data on innovative applications of EE technologies in other countries. Conduct workshops to increase worldwide awareness of EE products and services. (\$660)</p>	<p>Center for the Analysis and Dissemination of Demonstrated Technologies (CADET)</p> <p>No funding is requested. (\$0)</p>
	<p>Asia Pacific Economic Cooperation (APEC)</p>	<p>Asia Pacific Economic Cooperation (APEC)</p>	<p>Asia Pacific Economic Cooperation (APEC)</p>
	<p>Continued the U.S.'s leadership role in energy efficiency subcommittees of this international cooperative effort. Continued dialogue and involvement with member countries. Identified viable market opportunities and coordinate activities with EE industry.</p> <p>Developed specific projects to showcase U.S. technologies in member countries. (\$590)</p>	<p>Continue the U.S.'s leadership role in energy efficiency subcommittees of this international cooperative effort. Continue dialogue and involvement with member countries. Continue to identify viable market opportunities and coordinate activities with EE industry. Showcase U.S. technologies in member countries. (\$590)</p>	<p>No funding is requested. (\$0)</p>

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
International Market Development (Cont'd)	<p>Greenhouse Gas Technology Information Exchange (GREENTIE)</p> <p>Continued participation in this international effort to reduce green house gas emissions. Continued support for the upkeep of the directory of green house gas technology centers and the supporting networks. Continued support for Greentie National Team activities. Provided U.S. industry information on potential market opportunities in targeted regions. (\$50)</p>	<p>Greenhouse Gas Technology Information Exchange (GREENTIE)</p> <p>Continue participation in this international effort to reduce green house gas emissions. Continue support for the upkeep of the directory of green house gas technology centers and the supporting networks. Provide U.S. industry information on potential market opportunities in targeted regions. (\$50)</p>	<p>Greenhouse Gas Technology Information Exchange (GREENTIE)</p> <p>No funding is requested. (\$0)</p>
Total, International Market Development	\$2,600	\$2,600	\$0
Information and Communications Program	<p>Energy Efficiency and Renewable Energy Clearinghouse (EREC)</p> <p>Continued operation of EREC to provide technical assistance and information in response to increasing public inquiries (approximately 110,000 per year). Improved the timeliness and quality</p>	<p>Energy Efficiency and Renewable Energy Clearinghouse (EREC)</p> <p>Continue operation of EREC to provide technical assistance and information in response to public inquiries (approximately 60,000 per year). Improve timeliness and quality of products delivered to</p>	<p>Energy Efficiency and Renewable Energy Clearinghouse (EREC)</p> <p>Provide technical assistance in response to 110,000 public inquiries per year. (\$1,150)</p>
Information and Communications			

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Program (Cont'd)	of products delivered to increase level of customer satisfaction; produced report on customer inquiries, responses and customer satisfaction. (\$1,150)	increase level of customer satisfaction; produce report on customer inquiries, responses and customer satisfaction. Assess service improvements and evaluate project impacts. Produce more consumer-oriented materials to meet consumer demand. (\$1,150)	
	Energy Efficiency and Renewable Energy Network (EREN)	Energy Efficiency and Renewable Energy Network (EREN)	Energy Efficiency and Renewable Energy Network (EREN)
	Continued support, promotion and use of EREN, a coordinated system linking multiple existing information and technical assistance services. Improved development of website and maintained and updated relevant and timely information on EERE programs and technologies. Increase integration of relevant organizational Internet applications. Used EREN to communicate and obtain feedback on EERE corporate policies, initiatives and programs in order to facilitate closer collaboration with States, private industry, other Federal agencies and other external partners. (\$400)	Continue promotion and support of EREN, a coordinated system linking multiple existing information and technical assistance services. Improve development of website and update relevant and timely information on EERE programs and technologies. Use EREN to communicate and obtain feedback to facilitate closer collaboration with States, private industry, other Federal agencies and other external partners. This site is used to publish an increasing number of EERE studies and reports. (\$400)	Web-based information and technical assistance services provided to EERE stakeholders. EREN plans to increase usage over the previous year by 15 percent, (8 million internet hits per month) while maintaining a 95+ percent customer satisfaction rating. (\$400)

III. Performance Summary: POLICY AND MANAGEMENT (Cont'd)

Program Activity	FY 2000	FY 2001	FY 2002
Total, Information and Communications Program	\$1,550	\$1,550	\$1,550
<hr/> <hr/>			
TOTAL, POLICY AND MANAGE- MENT	\$42,866	\$43,274	\$40,100