

PN-ACG-423

103227



# United States Government Support for Climate Technology Cooperation

## Projects and Activities: 1999



November 1999

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## **INTRODUCTION**

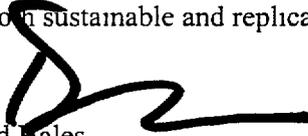
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### **U S Government Support for Climate Technology Cooperation**

The United States government is committed to working with developing countries and countries with economies in transition to advance cost-effective technology solutions to the global challenge of climate change. This document describes current U S government programs that facilitate the transfer of climate-friendly technologies and help developing countries build their capacity for measuring, monitoring, and reporting their greenhouse gas emissions.

These activities demonstrate the United States' continuing and vigorous commitment to sustainable development and the objectives of the United Nations Framework Convention on Climate Change (UNFCCC). Article 4.5 of the UNFCCC commits developed countries to "take all practicable steps to promote, facilitate, and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to other Parties." As shown by the programs described herein, the United States Agency for International Development, Department of Energy, Environmental Protection Agency, and Department of Agriculture are working around the world to fulfill this commitment, providing information exchanges, technical assistance, training, technology demonstrations, and financial assistance.

All of these initiatives seek to engage local stakeholders in finding solutions to the dual global challenges of sustainable development and climate change. For example, the United States Government launched the Technology Cooperation Agreement Pilot Program (TCAPP) to explore means to bring donors, host country governments, and the private sector together to focus on delivering concrete results in climate technology cooperation. This is in keeping with the core belief upon which all of these initiatives are founded: that by incorporating market-based approaches into our joint efforts, we can achieve results that are both sustainable and replicable.



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## **MULTI-REGION PROJECTS**

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### ***Biophysical Resource Appraisal Support System (BRASS), USDA***

USDA teamed up with Natural Resources Conservation Service (NRCS) in 1994 with the objective to compile and facilitate the dissemination basic land resource information to aid in the assessment and monitoring of desertification and impacts of climate change BRASS developed in collaboration with many countries meets this objective by providing basic information on land resource types conditions, and use for assessments of changes induced by land use and climate change Methods for making such assessments are being developed for validation and use by other countries

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### ***Center for Resource Solutions' Global Guardianship Initiative with the Nature Conservancy, USDOE***

U S DOE is collaborating with the Center for Resource Solutions and the Nature Conservancy to establish models for community renewable energy deployment as a strategy for protected area management and an alternative to grid extension in developing countries in Latin America and Asia

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### ***Cities for Climate Protection Campaign in Latin America and Developing Countries in the Asia Pacific Region, USDOE***

U S DOE is collaborating with the International Council for Local Environmental Initiatives (ICLEI) to increase the use of energy efficiency and renewable energy technologies in various cities in Latin America and the Asia Pacific Region

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### ***Energy Efficiency Development, USAID***

USAID's Global Environment Center awarded a grant to support the development of energy efficiency activities in several countries, including India, Ghana, and Ukraine These activities focus on the development of municipally based efficiency programs utilizing indigenous non-governmental organizations (NGOs) and U S efficiency experts

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### ***Energy Efficiency Harmonization, Distribution, and Promotion, USAID***

USAID's Global Environment Center provides expertise in the area of energy efficiency, particularly with regard to regional harmonization of standards, distribution of second-hand equipment, and promotion of initiatives to leverage private sector investment in Asia and Latin America

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***Energy Efficiency Standards, Economics, and Policy Program, USAID, USDOE***

An interagency agreement between USAID's Global Environment Center and U S DOE supports the Lawrence Berkeley Laboratory's provision of expertise in energy efficiency standards as well as energy policy and economics related to greenhouse gas emissions in developing countries

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***Energy & Environment Training Program, USAID***

USAID provides training held in the United States for host country professionals in the areas of

- Economic and Financial Evaluation of Energy Efficiency Projects
- Monitoring & Verification of Greenhouse Gas Emissions (Energy)
- Implementation of Power Sector Regulatory Reform

- Economic and Financial Evaluation of Renewable Energy Projects
- Application of ISO 14000 Environmental Management Systems for Municipalities
- Integrated Resource Planning
- Emissions Trading
- Macro-Economic Modeling for Climate Change
- Monitoring & Verification of Greenhouse Gas Emissions (Land Use)

USAID also provides 3-week training courses held in selected host countries in the areas of Energy Efficiency Entrepreneurship and Renewable Energy Entrepreneurship USAID also provides a 1-week course on Economics of Climate Change, and a series of 1-day forums for senior decision-makers on Climate Change & Development Each entrepreneurship course consists of three 1-week modules on business management, finance, and customer service

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***Energy Partnership Program, USAID***

The United States Energy Association is implementing the Energy Partnership Program in Asia, Africa Latin America, Central and Eastern Europe, and the Former Soviet Union The program's main objective is to provide a

mechanism for the U S energy industry to transfer its experience in market-based energy production transmission and distribution to its international counterparts while providing U S participants with the opportunity to learn about the energy industry in another country Regional programs activities encompass such topics as regulation, the environment, system reliability and efficiency renewable energy, customer service, and financial management, with an emphasis on climate change mitigation

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***Environmental Management Systems Task Order, USAID***

The primary objective of this activity, conducted by USAID's Global Environment Center, is to demonstrate the feasibility and benefits of using an Environmental Management Systems (EMS) approach to reducing pollution in municipalities Through activities in the areas of energy efficiency, reduction of GHGs, and pollution prevention and control, EMS promotes a holistic approach to improving environmental performance continuously over time

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***Industrial Peer Exchange, USAID, USEPA***

The USEPA Multimedia Industrial Peer Exchange Climate Wise Program, USAID Global Environment Center, US Asian Environmental Partnership (USAEP), and US

Environmental Protection Agency, all in conjunction with the efforts underway in the Philippine and Mexican International Council of Local Environmental Initiatives (ICLEI) Cities for Climate Protection campaigns are assisting the participating local governments in developing outreach programs to their industrial base to promote the reduction of greenhouse gas emissions and other pollutants Local industrial peer exchange sessions are created for companies, government officials, ICLEI and U S Government staff to exchange innovations, ideas, and opportunities to reduce greenhouse gas emissions and other pollution Companies use the expertise and information drawn from the peer exchange sessions to develop action plans that outline greenhouse gas emission, solid waste, water use, and hazardous waste reduction opportunities Activities include recruitment, emissions tracking software training, technical assistance, local capacity building, and the networking of industrial environmental managers

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***International Cleaner Production Cooperative, USEPA***

The International Cleaner Production Cooperative provides a single on-line point of access to cleaner production information from around the world The Cooperative retrieves data on cleaner production from diverse Web sites maintained by international organizations industry groups, NGOs, and national and local governments See [http //es epa gov/cooperative/international](http://es.epa.gov/cooperative/international)

This site allows users to retrieve technical and policy data through a sophisticated search engine that supports both simple and complex queries Searches can be done by individual

database specific region of the world or through all the member sites around the world Recent headlines news, conferences and events related to member sites are highlighted and updated regularly on the Cooperative's front page Queries can be expedited through pre-selected, guided searches and industry sector-specific materials Users are also invited to recommend the addition of more member sites and relevant information

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***International Co-Control Analysis Project  
Estimating the Environmental Benefits of  
Greenhouse Gas Reduction, USEPA***

The U S Environmental Protection Agency (U S EPA) is assisting developing countries in evaluating the environmental benefits of technologies and policies for reducing greenhouse gas emissions Under this initiative U S EPA is providing technical and financial support to six developing countries to assist with analysis of the environmental benefits associated with measures that reduce greenhouse gas emissions The U S EPA is collaborating with Argentina, Brazil, Chile, China, Korea and Mexico Led by teams of experts from these countries, along with the technical support of EPA staff and consultants, the work is tailored to the needs and priorities of each country U S EPA supplies access to quantitative models and analytic tools and provides technical assistance in conducting these environmental assessments Currently this work primarily focuses on the air pollution benefits of clean energy technologies, but is capable of addressing water and soil pollution and non-energy technologies where appropriate

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***International Council for Local  
Environmental Initiatives, USAID***

The International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection (CCP) campaign, in partnership with state and national governments, is engaging a group of cities in the Philippines and Mexico in an effort to reduce local greenhouse gas emissions Activities include developing a corporate inventory of local greenhouse gas emissions, setting targets for emissions reductions, developing local action plans for emission reductions, building local capacity, providing technical assistance, and networking with US and other participating CCP cities

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***International Industrial Efficiency  
Assessments, USDOE***

The U S DOE is providing technical support to and collaborating with developing countries to encourage and implement measures that increase industrial energy efficiency and productivity U S DOE and U S universities participating in the Industrial Assessment Center (IAC) program are helping build

developing countries' technical and institutional capacities to provide recommendations to local manufacturing plants. These recommendations include strategies for controlling costs through energy efficiency improvements, increased productivity, and waste reduction. Technical assistance includes training by U.S. engineering faculty/student teams and the analytical tools and experience developed from the domestic U.S. IAC program. By helping to adapt these to local conditions and facilitating collaboration between in-country government agencies, local universities, and international funding sources, the U.S. DOE creates the local capacity for these programs to be self-sustaining.

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***International Motor Challenge Program,  
USDOE***

The U.S. DOE's Office of Energy Efficiency and Renewable Energy is partnering with developing countries to build on the U.S. experience and implement country-specific programs to help local manufacturers reduce energy costs and increase productivity through improved industrial motor systems. The domestic U.S. Motor Challenge program develops and disseminates information, tools, and best practices to assist U.S. industry to make more-informed decisions regarding the management of motor-driven systems of all types: motor-driven pumps, fans, compressors, etc. The U.S. DOE is working with several developing countries to adapt this highly successful effort to their local conditions. The program has already been initiated in China, India, and South Africa and can serve as a model for Latin America.

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***MMEE Project, USAID***

USAID/G/ENV/EET awarded a contract to a consortium led by Bechtel Consulting to develop an analytical framework and supporting techniques to better define and realize successful energy efficiency investments. The project includes application of the methodology in India, Egypt, and Brazil and development of electronic information resources. The project duration is from 1999 through mid-2000 with support to information network extended beyond 2000.

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***Peer Exchanges, USAID***

USAID's Global Environment Center sponsors the National Association of State Energy Officials' establishment of peer exchange programs between state energy offices in the U.S. and selected counterparts in the Philippines, Mexico, and Brazil.

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***Renewable Energy Applications and Training, USAID***

USAID's Global Environment Center awarded Winrock International a contract to establish a network of Renewable Energy Program Support Offices (REPSOs) to build local capacity in renewable energy accelerate its commercialization and increase access to energy in rural areas

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***Rural Electrification Services, USAID***

USAID's Global Environment Center supports the National Rural Electric Cooperative Association's identification of affordable options for the provision of electrical services to rural areas The U S DOE also provides technical assistance to support the development of pilot renewable energy and hybrid electrification projects

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***Second International Methane Mitigation Project, USEPA***

This conference in Novosibirsk Russia, June 18-23, 2000 in cooperation with the Russian Academy of Sciences, will bring together international leaders in business, policy-making, and engineering to consider opportunities and issues in mitigating emissions of methane a greenhouse gas responsible for 15 percent of human-induced global emissions Specifically, the conference aims to develop a stronger understanding of the specific measures that can result in the most pragmatic, cost effective, and environmentally beneficial results

Participants will have an opportunity to discuss

- The science and policy implications of implementing different methane control measures,
- Costs and benefits of adopting different methane mitigation targets, focusing on the economic and environmental co-benefits of different measures,
- National and regional strategies to reduce emissions,
- Specific mitigation options, and project opportunities, in reducing emissions from coal mining,
- natural gas systems, ruminant livestock solid waste disposal, and other sources, anthropogenic and natural

In addition, participants will go on-site to visit coal mines, farms, natural gas systems and solid waste facilities in the region to better understand practices and measures to reduce methane emissions

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***Strategic Planning on GCC, Renewables, and Energy Efficiency, USAID***

USAID's Global Environment Center supports Oak Ridge National Laboratory in the provision of strategic planning services in the area of renewable energy and energy efficiency in key global climate change countries

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***Technology Cooperation Agreement Pilot Project, USAID, USDOE, USEPA***

Through the Technology Cooperation Agreement Pilot Project (TCAPP), USAID, U S EPA, and U S DOE collaborate together to assist the governments of Brazil, China, Egypt, Kazakhstan Mexico, the Philippines, and the Southern African Development Community (SADC) (in collaboration with the Climate Technology Initiative) in attracting investment in clean energy technologies that meet their development needs and reduce greenhouse gas emissions

The U S Government launched TCAPP in August 1997 to provide a model for a country driven and market relevant approach to implementation of technology transfer under the United Nations Framework Convention on Climate Change TCAPP provides a vehicle for assisting developing countries in removing barriers and accelerating investment in clean

energy technologies, including renewable energy, energy efficiency and natural gas Government-led teams in Brazil, China, Kazakhstan, Mexico, and the Philippines have all established their technology cooperation priorities and are currently addressing implementing actions to attract private investment, ranging from policy reforms to investment solicitations Egypt and Korea joined this effort in 1999 TCAPP is also assisting the Climate Technology Initiative with a similar program for the 14 countries in the Southern African Development Community The international business community is actively engaged in the program to assist countries with the design of investment actions and to respond to new investment opportunities The National Renewable Energy Laboratory leads implementation of this program and the Business Council for Sustainable Energy – an umbrella organization for companies in the natural gas, renewable energy, and energy efficiency sectors with alliances worldwide – coordinates private sector participation activities Other bilateral and multilateral donors, and technical institutions also participate in this program

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***Tropical Forestry and Global Climate Change Research Network (F7 Project), USEPA***

The F7 project plans to assess the potential implications of the UN Framework Convention on Climate Change (UNFCCC) climate convention and other potential agreements for the forestry sector in key tropical forest countries, building on previous analyses by the group over 1991-98

Project activities include helping in-country analysts to improve their forestry (and possibly agricultural) sector GHG emissions inventory estimates, to identify and evaluate potential national policy and project-level sustainable forestry management options with climate change benefits from late 1998 to late 2000. Several scenarios of baseline and potential sustainable forest management national policies are modeled and assessed in terms of their economic, climate change, and other benefits.

The project is funded by USEPA/Office of Policy, and implemented with its partner Lawrence Berkeley National Laboratory (LBNL) of US DOE. EPA and LBNL have worked with analysts in India, Indonesia, Thailand, Malaysia, China, Mexico, Brazil, Tanzania and Nigeria over the past 8 years on climate change and forestry inventory and mitigation analyses. The project has trained in-country experts to run the COPATH and COMAP computer models that were collectively built, and to publish the results. Several workshops are being developed to bring together analysts and other interested parties in several of the F7 countries to compare analyses, and raise technical and policy issues.

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***US Country Studies Program, USEPA, USAID, USDOE, NOAA, and Departments of State and Commerce***

The U.S. Country Studies Program (CSP) was initiated in 1992 to facilitate the participation of developing countries and countries with economies in transition under the UN Framework Convention on Climate Change (UNFCCC). The CSP offers funding and expert assistance for (a) creating a national inventory of GHG emissions, assessing vulnerabilities to climate change, and evaluating strategies for mitigating emissions and adapting to potential impacts, (b) creating a process for developing and implementing climate change related policies and measures, (c) preparing climate change action plans, (d) promoting diffusion of mitigation and adaptation technologies, and (e) developing information to further regional, national, and international discussions.

Funded and staffed by multiple government agencies, the CSP is currently assisting 56 countries in every region of the world, and has issued three major synthesis reports documenting the results of these studies. The CSP has also sponsored regional and global workshops to promote discussion and information sharing. In 1995, the CSP began the next phase, and is now assisting 18 countries with preparing their national action plans. An additional 25 countries have requested similar assistance.

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### ***Village Power 2000, USDOE***

The Office of Energy Efficiency and Renewable Energy is working to bring clean and affordable energy to rural people throughout the world especially women and children, who currently have no access to electric power. Village Power 2000 (VP2000) is a public-private partnership working to mobilize resources from the U.S. government, bi-lateral, multi-lateral, and regional development banks, as well as the private sector and non-government organizations to identify and promote project opportunities, facilitate partnerships, and assist in overcoming technical, institutional, and financial barriers to the provision of energy services to rural populations.

VP2000 coordinated the visit of 25 U.S. students to Uganda this summer to demonstrate the capabilities of solar power and Internet technology. The students joined with Ugandan students and traveled the rural countryside installing solar panels in a homeless shelter, an orphanage, schools, and other community buildings.

VP2000 will encourage other such partnerships and is organizing a Village Power conference in Washington, D.C. April 17-19, 2000 to showcase the role of renewable energy technologies in facilitating social and economic development that is both sustainable and non-damaging to the environment. The focus of the conference will be on the synergies between renewable energy and wireless telecommunications.

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## **AFRICA REGION**

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### **East Africa**

#### ***Livestock Nutrition Improvement and Methane Reduction Project, USEPA***

U.S. EPA has been working since 1995 (and expects to continue through 2001) with local and U.S. NGOs and host governments in Uganda, Tanzania, and Zimbabwe to examine local livestock feeding practices to determine the potential for improving livestock productivity and reducing emissions. A livestock methane measurement project has been established in Zimbabwe and is examining the effects of improving livestock nutrition on emissions and productivity. A feed supplement project has just been launched in Uganda with private sector financial support.

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### **Egypt**

#### ***Cairo Air Improvement Project, USAID***

The purpose of the Cairo Air Improvement Project (CAIP) is to reduce emission of pollutants to Cairo's air that have been shown to have the greatest health risks. The project has a 12/31/02 PACD and is designed to (1) improve fuel efficiency and reduce exhaust emissions of the gasoline motor vehicle fleet by instituting a private sector-managed vehicle emissions testing, tune-up and certification program, (2) reduce the total suspended particulate emissions from diesel-fueled buses by expanding the use

of compressed natural gas fuel (3) reduce lead and particulate emissions by reducing the concentration of airborne lead in and near lead smelters, (4) institute an air quality monitoring network and analysis of CAIP-related interventions and (5) initiate a public awareness and communications campaign related to the other components. Activities include technology demonstration, feasibility and technical assistance, policy reform, human and institutional capacity building, and information dissemination. Principal partners include the Ministry of State for Environmental Affairs, Ministry of Petroleum, local governments, and several private sector firms.

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***Egyptian Environmental Policy Project ,  
USAID, USEPA***

USAID/Egypt's project addresses policy reforms throughout the environmental sector, including solid waste management, reducing lead emissions, and the use of cleaner fossil fuels in motor vehicles.

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***Egyptian Environmental Policy Program,  
USAID***

This new USAID/Egypt activity (PACD 09/30/02) which includes technical assistance

and cash transfer components addresses policy reforms and institutional capacity building throughout the environmental and natural resources arena including biodiversity conservation and natural resource management in the Red Sea area, urban and industrial pollution such as solid waste management and pollution prevention, energy efficiency issues related to climate change, and strategic planning. Several policy areas are oriented towards fostering private and public sector partnerships. The first 18-month tranche of this activity contains 15 separate policy objective areas, each with several policy measure milestones. Principal partners include the Ministry of State for Environmental Affairs, the Ministry of Tourism, Ministry of Petroleum, as well as local governments and independent sector institutions that collaborate with these ministries.

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***Power Sector Support Project , USAID***

To further USAID/Egypt support of accelerated private sector-led growth, this project seeks to improve the policy environment to increase efficiency and sustainability. Specific activities include supporting the establishment of a regulatory commission that will rationalize the process of setting rates, and support for raising the rate of return on investment in the sector. Support is also provided for infrastructure development.

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## **Ghana**

### ***Cooperation with Ghanaian Energy Foundation, USEPA***

This project is designed to provide technical assistance to the Ghanaian Energy Foundation as it designs and implements a public education and information program on energy efficiency. It is implemented through the Climate Institute, an NGO based in the U S.

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### ***Industrial Efficiency Assessments Cooperation with Ghana, USDOE***

Since 1996, the U S DOE has worked to establish a self-sustaining program in Ghana to perform assessments and implement measures to save energy, minimize waste, and increase productivity in the manufacturing sector. The U S DOE facilitated collaboration with the Ghanaian Ministry of Mines and Energy and the University of Science and Technology in Kumasi to adapt a highly successful domestic experience with the Industrial Efficiency Assessment program to the local conditions. U S DOE provided Ghanaian personnel technical assistance and training in several areas, including participating in assessments at U S manufacturing plants with U S university teams. The U S DOE also provided procedures for doing assessments and implementing measures to reduce energy costs. The Ghana team and Texas A&M University also conducted several assessments in country, including recommending several energy efficiency improvements at a plywood and veneer plant. The U S DOE also provided follow-up training through additional joint assessments and workshops. The Ghana Energy Efficiency Foundation supports these efforts by

developing informational materials. U S DOE's Lawrence Berkeley Laboratory is also helping the Foundation promote local energy efficiency codes, standards, and labels, and in addition DOE's Oak Ridge National Laboratory is helping promote the establishment of local electric motor repair facilities.

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### ***Technical Support for Energy Services Companies, USDOE***

U S DOE is providing technical support to help develop rural energy services companies to provide a range of energy services, including photovoltaic systems, to targeted regions. U S DOE is collaborating with the Ministry of Mines and Energy. Funding for hardware is provided by a United Nations Development Program grant.

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## **South Africa**

### ***Energy Efficient Housing in South Africa, USAID***

This USAID/South Africa project is promoting energy efficient housing designs to increase savings in space heating and reduce carbon dioxide emissions. Currently being implemented in two communities, the aim is to develop a low-cost model for environmentally sound, energy efficient housing that can be incorporated into South Africa's ongoing housing delivery program.

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***Energy Efficiency in South Africa, USEPA***

This effort promotes and supports voluntary energy efficiency program development in South Africa. Working with the Green Buildings for Africa and the Clean Commute programs, the effort includes technical assistance support for program design through the International Institute for Energy Conservation.

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***Energy Efficiency Policy and Program Cooperation, USDOE***

The U S DOE is collaborating with South Africa on the development of energy-efficiency policies and programs. The cooperation is focused on developing a motor challenge program and energy standards for buildings.

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***Renewable Energy Technology Cooperation, USDOE***

The U S DOE is collaborating with the Department of Minerals and Energy and the South African Regulators to provide technical

support for the design and implementation of renewable energy technology programs including photovoltaic systems.

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***Sub-Saharan Africa***

***Harnessing Market Forces to Provide Energy and Reduce Potential Greenhouse Gases, USAID***

USAID's Global Environment Center and the Regional Center for Southern Africa have developed a collaborative program with the Southern Africa Development Community (SADC) and the Southern African Power Pool (SAPP) to promote efficient energy production and consumption. The program provides technical assistance designed to transform Southern African power markets through regional cooperation and the establishment of a SAPP Coordination Center. As a result, regional integration efforts will be accelerated and electricity trade within the SAPP will be enhanced. This program also supports activities in other Sub-Saharan Africa regions to strengthen energy institutions and address legal, regulatory and policy issues.

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## **Tanzania**

### ***Solar Energy and Economic Development Initiative for Tanzania, USDOE***

The U S DOE is collaborating with the Northeast Sustainable Energy Association to support the development of a solar energy and economic development initiative for Tanzania

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## **Zimbabwe**

### ***Landfill Gas Utilization in Zimbabwe, USEPA***

Zimbabwe has expressed interest in exploring landfill gas use at a local landfill facility in Harare and secondly in other Zimbabwean towns. Project exploration would involve a feasibility study, project design, installation, and demonstration, and finally installation of the full recovery system. A landfill gas utilization project has the support of many government and local organizations including the Zimbabwe Ministries of Environment and Tourism, Energy & Transport, Lands and Agriculture, and the Harare City Council. The LMOP is currently in a discussion phase with the Center for Renewable Energy and Environmental Technology, which is spearheading this effort.

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## **ASIA / PACIFIC REGION**

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### **Asia / Regional**

#### ***Asia Forestry and Climate Change Mitigation Project (FORCLIMIT), USEPA***

From late 1999 to late 2000, the FORCLIMIT project will assess the potential implications of the United National Framework Convention on Climate Change and other potential agreements on the forestry sector in 3 countries – Philippines, Malaysia and Indonesia. Project activities include a) helping in-country analysts to improve their forestry (and possibly agriculture) sector GHG emissions inventory estimates, b) identifying and evaluating potential national policy and project-level sustainable forestry management options with climate change benefits, and c) introduction of forest project evaluation for risk, investment potential and credibility of performance over time.

The project is funded by the Department of State's East Asia and Pacific Environmental Program, the USEPA/Office of Policy, and its partner Lawrence Berkeley National Laboratory (LBNL) of US DOE. EPA and LBNL have worked in Indonesia, Thailand, Malaysia, South Korea, India, China and four other countries over the past eight years on climate change and forestry inventory and mitigation analyses. They also trained in-country experts to run the COPATH and COMAP computer models that were collectively built, and had published results. Several workshops are being developed to bring together analysts and potential forestry project developers to compare analyses and raise technical issues.

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***Asia Sustainable Energy Initiative, USAID***

The Asia Sustainable Energy Initiative a project of USAID's Global Environment Center, is intended to assist member countries with their efforts at mitigating climate change impacts originating in the energy sector. Under the Initiative, the Institute of International Education organized technical training for professionals from India, Indonesia, and the Philippines. The training provided participants with a working knowledge of the full range of technical and institutional requirements necessary for the implementation of workable results-oriented energy labeling programs adapted to their respective countries. The training examined the role of energy efficiency labeling in promoting the manufacture, marketing, and purchase of electrical equipment, such as refrigerators, residential air conditioners, lighting systems, and motors. As a result of this training activity, it is expected that product standards, testing, and labeling programs on electric equipment will be established and/or improved in the participating countries with potentially significant impacts over the longer term for mitigating energy demand growth rates and reducing gross domestic product energy intensity.

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***Improving Nutrition of Dairy Cattle and Reducing Livestock Methane Emissions, USEPA***

Through a three year project scheduled for completion in July 2000 the U S EPA is assessing the feasibility and benefits of reducing methane emissions through improved feeding methods. Pilot projects are underway in Nepal and Bangladesh to promote the use of molasses - urea feed supplements to improve productivity and reduce emissions from dairy cattle. Projects are being managed by US and local NGOs, and work with local dairy cooperatives.

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***Internet-Based Information Resource and Discussion Platform on Greenhouse Gas Reduction Strategies in Asia, USDOE***

To achieve greenhouse gas reductions in Asia, U S DOE and the TATA Energy and Resources Institute are collaborating to build an Internet-based information resource and discussion platform on the issues of energy efficiency and renewable energy technologies.

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***US-AEP Environmental Exchange Program, USAID***

US-AEP provides opportunities for professional exchanges between the U S and Asia on a wide array of topics promoting sustainable development in Asia. The program seeks to build and strengthen ties between U S and

Asian entities to help Asians address their environmental problems using U S technology and experience

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***US-AEP Environmental Professional Association Development, USAID***

US-AEP is supporting the formation of Asian national environmental professional membership associations in Thailand, Indonesia, Singapore India, and the Philippines US-AEP also provides assistance with recruitment, training in association management, technical information on many environmental issues, and matching grants for local associations

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***US-AEP Environmental Technology Fund II, USAID***

The National Association of State Development Agencies manages a fund which provided matching grants to promote relationships between U S and Asian entities, in support of sustainable economic development and environmental improvements, including sustainable energy development

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***US-AEP Improved Environmental Management in Asia, USAID***

USAID provides Environmental Action Teams through the U S Environmental Protection Agency (EPA) Teams provide training and short-term technical assistance designed to strengthen local, regional, and national environmental management practices in Asia

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***US-AEP NGO Business Partnerships, USAID***

The Asia Foundation implements and manages an incentive grants program designed to strengthen links between Asian NGOs and Asian businesses, fostering public-private partnerships that advocate or demonstrate environmentally responsible business practices

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***US-AEP Promotion of Pollution Prevention and Clean Technology Concepts (P2/CT), Technology and Equipment, and Education in Asia, USAID***

US-AEP provides education to foster local expertise on pollution prevention and the efficient use of energy and resources US-AEP facilitates the sale of U S technology and expertise, which promotes pollution prevention and clean technology

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**US-AEP State Environmental Initiative,  
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This activity which includes all 50 U S states involves helping state organizations identify and develop environmental projects in Asia, and providing grants to implement those projects

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**US-AEP Technical Representatives, USAID**

Technology representative offices in India, Thailand, Indonesia, the Philippines, South Korea Taiwan Hong Kong, Malaysia, Singapore, and Vietnam promote demand for cleaner more efficient industrialization and urbanization in Asia They facilitate access to U S technology expertise and partnerships to bring about clean efficient development

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**China**

**China Biomass Collaboration, USDOE**

U S DOE provided technical assistance and collaborated with the Chinese Ministry of Agriculture and the Chinese Center for Renewable Energy Development to develop the first complete assessment of biomass and bioenergy potential for China The assessment of indigenous technological and market potential was jointly prepared and published in a bilingual format for both countries It is expected to lead to collaborative market developments and joint ventures

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**Coalbed Methane, USEPA**

This project involves assessments and pilot projects for capturing abundant gas resources at Chinese mines, with concurrent mine safety, power production and climate benefits A Coalbed Methane Information Clearinghouse is housed at the Ministry of Coal and has conducted considerable outreach to U S and other companies interested in this market The Clearinghouse publishes a journal in Chinese and English, has hosted several domestic and international seminars, and has developed with EPA an economic analysis model to identify profitable projects to reduce methane emissions The Clearinghouse and EPA signed an agreement in April of 1999 at the Gore-Zhou Energy and Environment Forum outlining a two-year market data development project, which building upon the Clearinghouse's experience, will provide information and analyses on specific coal mine methane project opportunities for Chinese and Western investors and developers

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Creating Sustainable Waste Systems in China  
Through Improved Waste Management and  
Electric Vehicle and Hybrid Electric Vehicle  
Technology Development USDOE

On November 18 1997 the U S Department of Energy and the Ministry of Science and Technology of the People's Republic of China signed an agreement (Annex V) to cooperate in the area of electric and hybrid electric vehicle technology In FY 1998, the DOE Annex V Team met twice with its counterparts from China (in Washington DC, December 1997 and Beijing August 1998) during which DOE provided to the Ministry of Science and Technology information on electric vehicle industry standards and technical reports on batteries, fuel cells, electric motors, testing methods, training, demonstration programs, and policies to promote electric vehicle usage and environmental protection U S DOE coordinated a visit by a Chinese scientist to U S small businesses engaged in electric vehicle drive train development an area of great interest to the Chinese In addition to providing information in the areas of technology transfer, policies and programs to advance electric vehicle deployment, and promotion of environmental, health, and safety measures, DOE efforts are focused on setting up personnel exchanges with DOE national laboratories, and encouraging participation of small U S technology companies that can make significant contributions to the Chinese electric vehicle program These cooperative efforts aim to increase the commercialization potential of electric and hybrid electric technologies with benefits for both China and the United States

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#### ***Energy Efficient Buildings, USEPA***

This project consists of activities to assist China in developing its institutional capacity to support programs to improve the energy efficiency of buildings Initial activities focus

on data collection and development, market analysis, and the identification of key market and institutional barriers to energy efficiency The data developed will support Chinese efforts to seek international funding for expanded activities to promote energy efficiency in the buildings sector

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#### ***Energy-Efficient Industrial Motor Systems in China, USDOE***

As part of the International Motor Challenge program, the U S DOE and China are working to facilitate the development, commercialization and use of high-efficiency motors, motor speed controls, and other technologies and practices to improve motor system efficiency in China A study on the Chinese motor market, funded by DOE, was conducted by the American Council for an Energy-Efficient Economy with the Beijing Energy Conservation Institute and the Shanghai Electric Apparatus Institute In addition, the U S team has provided data on U S motors programs and products to China and is helping U S motor manufacturers assess opportunities for joint ventures in China Efforts are now focused on developing and conducting a Chinese Motor Challenge Program As part of the activity, data is being exchanged on motor systems including fans, compressors and pump systems A Motor Challenge workshop was held in Beijing in May, 1998 to introduce program concepts to Chinese policy makers

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***Integrated Gasification Combined Cycle Power Generation to Achieve Emissions Reductions, USEPA***

This project involves technical cooperation with China to lay the groundwork for construction of an Integrated Gasification Combined Cycle (IGCC) demonstration power plants. These plants use 1/3 less water and provide up to 23 percent in carbon dioxide reductions through efficiency gains as compared with conventional coal plants. The project also includes cost efficiency studies, research and identification of manufacturing capabilities in China, and workshops and training on IGCC technology and benefits.

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***Mobile Sources, USEPA***

Also in China, EPA is developing policy and technical assistance in pursuit of the phase out of lead in gasoline and vehicle emissions controls, including public awareness components.

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***Modeling National Economic Impacts of Climate Change Policy, USEPA***

This joint effort with national experts in economic modeling and environmental policy will develop improved capacity for analysis of costs and other economic impacts of policies to limit greenhouse gas emissions.

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***Nationwide Air Quality Monitoring Network, USEPA***

EPA will provide support in Phase I (eleven cities) of the development of an integrated nationwide air quality monitoring network. EPA intends to cooperate on Phase II which will extend the network to 47 cities. National and local level officials will receive training through the State of California and at RTP and U.S. experts will provide on-the-ground advice in siting and calibrating equipment, data collection and analysis, forecasting. The project will assist China in tracking and controlling pollution sources and in raising public awareness.

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***Small PV/Wind Technology Applications for Rural and Remote Development in China, USDOE***

DOE and the Chinese Ministry of Agriculture sponsored a workshop to a) provide information to U.S. and Chinese businesses on rural electrification opportunities and plans for China, b) provide a forum to facilitate networking of U.S. and Chinese company representatives, c) and develop a strategy for fostering U.S./Chinese joint venture and other business activity in rural and remote renewable energy electrification in China.

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***Technical Assistance for Energy-Efficient Lighting in China, USEPA***

U.S. EPA/OAR provides training at China's State Bureau of Technical Supervision and the Beijing Energy Efficiency Center in the development of standards for energy-efficient lighting in China and in test procedures to improve production in China of energy-efficient fluorescent lamps. The project is implemented through U.S. DOE's Lawrence Berkeley National Laboratories.

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***Technical Assistance to Improve the Energy Efficiency of Air Conditioners in China, USEPA***

This project provides support to assess and promote market transformation efforts to increase the market penetration of energy-efficient air conditioners. Specific efforts in China include monitoring air conditioner energy use and operating patterns, development of efficiency standards, and addressing technical and market barriers to air conditioner efficiency improvements.

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***Transfer of Voluntary Programs, USEPA***

The FY 2000 workplan for TEPA includes building case studies of industrial sectors

(pharmaceuticals), using the established energy pathways of the Taiwan MARKAL, and developing a waste materials pathway which can be run in parallel to the energy pathway. The goal is to build a quantitative platform for the transfer of a Climate Wise Program and several elements of P2 programs concentrating on air toxics and multi-media PBTs.

Advisory discussions held with local officials in Hong Kong discussed MARKAL and its potential role in sector studies on sustainability and briefed Hong Kong's Chief Climate Officer on the transfer to Taiwan of the Energy Star Office Products Program and the conditions of such a transfer to Hong Kong. Discussions to continue later in the year.

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***U.S. -China Energy and Environment Technology Center, USEPA***

This center facilitates technical cooperation with China to disseminate information on energy and environmental technology related to electric power as well as information exchange, demonstrations, and research on energy and environmental technologies, such as clean coal, oil, and gas. Partners include U.S. EPA, U.S. DOE, Tulane University, and China's State Science and Technology Commission.

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### ***U S -China Energy Efficiency Steering Committee, USDOE***

The steering committee is based on Annex III one of the annexes under the U S /China Energy Efficiency and Renewable Energy Development and Utilization Protocol signed in February 1995. The principal function of the Committee is to coordinate government to government cooperative activities and to facilitate the interests of industry. The committee is co-chaired by the State Development Planning Commission and by the U S DOE and has activities in ten areas: buildings, cogeneration, district heating, electric motor systems, finance, industrial process controls, information exchange, lighting, policy, and transformers. The second Steering Committee meeting was held in Beijing on June 24 and 25, 1999. At this meeting, progress since the first meeting in May 1997 was reviewed, issues and opportunities were discussed, and next steps were planned in each of the activity areas.

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### **India**

#### ***Bagasse Cogeneration, USAID***

USAID has done extensive work on opening the market for cogenerated power through policy studies that have led to breakthroughs in power purchase pricing in all the key sugar producing states, providing direct incentives to investments in cane cogeneration. In 1992, USAID developed a program to bring together the sugar industry, utilities, and state governments to overcome existing barriers to grid-connected cogeneration. In January 1994 the Indian Ministry for Non-Conventional Energy Sources (MNES) launched the National Program for Bagasse-based Cogeneration,

supported in part by USAID. To date, three reimbursable cost share grants have been issued by USAID to private firms for the development and construction of sugar cane cogeneration facilities, and several private projects are under way that are expected to reduce CO2 emissions by one million tons annually. Government regulations and appropriate tariffs for cogenerated power have been established. Almost 300 MW of installed capacity in India can be tied to USAID's work promoting Bagasse cogeneration.

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#### ***Electric Vehicles Program, USAID***

USAID/India and USAID's Global Environment Center are sponsoring activities designed to leverage public and private investments in electric vehicles. A prime objective of the program is to reduce particulate matter and lead in the urban environment. Funded under the activity, "Electric Vehicle-Investment Opportunities in India" and "Electric Vehicle Alternative and a Directory of U S Electric Vehicle Industry" has helped U S and Indian industry explore business and partnership opportunities. USAID assistance helped Amerigon Inc CA and Main Group of Companies, Bangalore establish a joint venture company REVA Electric Car Company to manufacture passenger electric cars in India. Recently, Global Environment Center and USAID/India has launched a India Zero Emissions Transportation (IZET) demonstration program for electric two and three wheelers in collaboration with Bajaj Auto Ltd, Pune and New Generation motors VA. The Tricon Restaurants (Pizza Hut, Delhi) and Welcome Group Hotels (Mughal Sheraton, Agra) are

other partners in IZET for two and three wheelers respectively

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***Energy Efficiency and Demand-Side Management, USAID***

Energy efficiency and Demand-Side Management (DSM) is a major area of USAID assistance and the program has focused on four areas, namely DSM in utilities, energy efficiency in water pumping, energy efficiency standards and labeling and policy support Assistance was provided to Ahmedabad Electricity Company (AEC), a private sector utility to design a DSM program A number of pilot DSM projects have been initiated by AEC in the industrial and residential sectors Technical assistance on DSM was also provided to two other state utilities, those in Haryana and Tamil Nadu In Haryana, energy efficiency projects worth \$30 million were developed and in Tamil Nadu a load research program with pilot program was carried out USAID assistance has also helped design the adoption of an energy efficiency label by the Bureau of Indian Standards USAID technical assistance to the ministry of power for development of policies to promote energy efficiency is an ongoing activity

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***Greenhouse Gas Pollution Prevention Project, USAID***

USAID/India is implementing the greenhouse Gas Pollution Prevention Project in India in collaboration with the Industrial Development Bank of India and the National Thermal power corporation (NTPC) with funding from the U S Government contribution to the pilot phase of the Global Environment Facility The project aims to reduce carbon dioxide emissions per unit of electric power generated by optimizing the efficiency of generation from existing thermal power plants and encouraging bagasse and biomass utilization for year-round cogeneration in selected utilities

USAID/India's technical assistance and training work with NTPC (whose 17 plants generate 25% of India's electric power) has helped establish the Center for Power Efficiency and Environment Protection (CENPEEP) as a national center for providing technical leadership and advice to the electric power sector USAID's power plant efficiency demonstrations at four Indian power stations have resulted in NTPC investing \$2.5 million in new environmental equipment, with the potential for saving millions annually in coal purchases, and generating huge reductions in greenhouse gas emissions

USAID/India's investment grant assistance, through IDBI, to nine sugar mills will set up nearly 200 MW of bagasse (waste from sugar cane crushing) cogeneration units to supply of power to the grid based entirely on biomass fuels Of these nine sugar cogeneration facilities, four were commissioned and supplied nearly 300 million kilowatt hours of biomass-fired electric power last year Further, USAID/India's technical assistance has, in part, helped develop a pipeline of further 200 MW sugar cogeneration facilities This activity builds upon the previous work of USAID/Global Environment Center and USAID/India on policy studies for opening the market for cogenerated power The establishment of government policy and

appropriate tariffs for cogenerated power was in part a result of USAID policy studies

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#### ***India Private Power Initiative, USAID***

This USAID/India supported Initiative provides "hands-on" technical assistance to State Electricity Boards and the Indian Government to build in-country capabilities to evaluate and process the numerous project proposals now pending before the Government, and assistance in the formulation of the project contract documentation necessary for international financing. The project works with the Ministry of Power to develop regulations, contract procedures and guidelines for setting up private power companies. India Private Power Initiative (IPPI) staff also provides country-wide training on the fundamental aspects of private participation in the power sector. The project supports U.S. developers to identify potential local joint venture partners. USAID has provided extensive technical assistance and has trained over 400 Indian professionals in the range of issues associated with the shift from state-owned utilities to private power generation. These reforms offer huge potential environmental benefits through increased operational efficiency. Currently regulatory reform and restructuring efforts are moving ahead in Haryana with USAID help and have the potential to leverage a \$600 million World Bank loan.

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#### ***National Thermal Power Corporation, USAID***

USAID/India's work with the National Thermal Power Corporation (NTPC) has helped establish the Center for Power Efficiency and Environment Protection as the foremost center for providing technical leadership and advice to the electric power sector. USAID's power plant efficiency demonstrations with NTPC (whose 17 plants generate 25% of India's electric power) have been so successful that for one of the demonstrated programs the corporation is investing \$2.5 million this year in new environmental equipment. This will save millions annually in coal purchases, and generate huge reductions in greenhouse gas emissions.

USAID support in facilitating the development of advanced power generation technologies has led to the decision by NTPC and another private utility to invest funds in a detailed feasibility report for new power plants based on advanced technologies. These technologies not only reduce carbon dioxide emissions per unit of power but will also help cut down the local pollution problems. USAID involvement is expected to help leverage a considerable amount of World Bank and GEF funding for project implementation.

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#### ***Power Sector Regulatory Reform and Restructuring, USAID***

USAID/India is providing support for the establishment of a policy, regulatory and legal environment in the Indian power sector to create an enabling environment for enhanced private investment in the sector. USAID is providing extensive technical support to several state electricity regulatory commissions and the

Central Electricity Regulatory Commissions in staffing plans establishment of rules and procedures, and tariff guidelines USAID is also providing technical assistance for power sector policy In the state of Haryana USAID TA and training plays an important complementary role to the much larger World Bank (\$600 million loan) and British Department for International Development (DFID \$24 million grant) programs USAID supported TA helped in identification and development of demand-side management projects to be funded from the \$45 million DSM component of the World Bank loan

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***Renewable Energy Project Support Office (REPSO), USAID***

USAID assists a number of non-government organizations in developing countries to promote the use of renewable energy by establishing Renewable Energy Project Support Offices (REPSOs) These in-country facilities are managed by local institutions and are designed to provide the technical and financial assistance necessary to help identify and evaluate renewable energy projects The REPSO-India is based in New Delhi and is now a registered Indian not-for-profit organization Under a USAID/India grant, REPSO provides technical and financial advisory services to set up commercialization models of renewable energy projects in India One of major success of this grant is accelerated commercialization of solar photovoltaic domestic lighting systems that REPSO-India supported Solar Electric Light Company (SELCO) established in southern Indian states Another major achievement is the commercial sales of solar photovoltaic water pumping systems for

irrigation by Polyene Film Industries Chennai These operations have resulted in improvements in the quality of rural living and expansion in the livelihood options for rural villagers

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***Sustainable Cities Initiative, USAID***

Funding under the USAID/Global Environment Center and USAID/India Ahmedabad is the Alliance to Save Energy's first sustainable city in India With few energy resources and electricity demand rising by 5-6 percent annually, the city's utility could not keep pace with demand The Alliance provided technical assistance to Ahmedabad and reaped impressive results Along with Hagler-Bailly Services, Inc and USAID, the Alliance worked closely with the city to build support for an energy management program at the local utility, hired a full time in-country coordinator to be a liaison, and introduced the concepts of lease financing and energy service companies As a result of these efforts, the city government has established an official energy management cell and recently agreed to increase staff and funding for this new institution To date, Ahmedabad has reduced peak electricity demand by 11 percent, saved over \$300,000 in energy costs, and reduced carbon dioxide emissions (a primary greenhouse gas) by 4,650 tons

USAID/India is currently funding the expansion of this activity in two other Indian cities, namely, Chennai in Tamil Nadu and Pune in Maharashtra In Chennai, Alliance team is working with the state utility, the Tamil Nadu Electricity Board, to implement a demand-side management (DSM) pilot project in Pune, the team is working with the city municipality, the Pune Municipal Corporation, to launch a water pumping efficiency project The Alliance team

is also implementing a small technical assistance project to help the Vadodara Municipal Corporation in the city of Vadodara improve the pumping efficiency programs the Alliance team is also examining the broader issues related to urban energy management Some of these issues include water management and conservation institutional development, non-governmental organization (NGO) development and energy service company (ESCO) development

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***Technical Assistance for a Demand Side Management Program, USAID***

Surat Electricity Company (SEC) is a privately managed distribution company, with a peak demand of 280 MW This demand is expected to grow to 400 MW by the year 2000 and SEC faces severe peak load shortages SEC has identified peak load management as its primary objective for Demand Side Management (DSM), with a secondary objective being to introduce energy efficiency amongst its subsidized rate customers, thus enabling it to sell the saved electricity to unsubsidized consumers USAID provides technical assistance to Surat to collect and analyze load data for its customers and develop a DSM action plan, as well as to develop publicity and educational material that educate customers on energy conservation

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***Utility Partnership Program, USAID***

Funded by USAID, the United States Energy Association is implementing the Utility Partnership program in India The program's main objective is to provide a mechanism for the U S energy industry to transfer its experience in market-based energy production, transmission, and distribution to its international counterparts, while providing the U S utilities with a chance to learn about the energy industry in a given country The partnership program has established eight partnerships in the country, three of which are regulatory partnerships and complements the USAID/India's regulatory reform activities

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**Indonesia**

***Coordinated Local Environmental Action Networks/Energy Project, USAID***

From 1996 to the present, USAID's objectives in the Coordinated Local Environmental Action Networks (CLEAN) Energy Project include technical assistance, financing policy reform, institutional capacity-building, human capacity-building, information dissemination, and commercial facilitation USAID/Indonesia's project aims to reduce the level of pollution and greenhouse gases emitted in power generation and transportation while meeting the need for reducing subsidies to state-owned enterprises This is accomplished by providing institutional capacity-building to establish policy analysis capability and implement energy sector policy reform Also provided, technical assistance and capacity-building for restructuring Indonesia's state electric utility, technical assistance to develop integrated policy and an integrated program implementation plan for Clean Air in

Jakarta, capacity-building of NGO's to promote financing of energy efficiency projects, and support for commercialization and financing of renewable energy

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***Forestry And Terrestrial Protected Areas, USAID***

From 1996 to the present USAID/Indonesia's Forest and Terrestrial Protected Area's program has aimed at providing technical assistance, institutional capacity building, and policy reform. This program supports sustainable and decentralized management of forestry resources through better technical practices and policy frameworks for industry, greater community and locally-based resource management, capacity building of private institutions for increasing awareness of environmental issues, and increased participation of women in natural resources planning and management.

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***Water Efficiency Team (WET) Project, USAID***

USAID/Indonesia and US-AEP have joined together to develop a program to assist approximately 50 small, weak municipal water enterprises throughout Indonesia. This program began in 1998 during the economic crisis when the quality and availability of water were threatened. Technical Assistance is provided to assist weak water enterprises on the edge of bankruptcy to conduct technical and financial audits and develop plans to recover financially so as to continue to provide clean water to urban

populations during Indonesia's monetary crisis. Financial recovery plans to be funded through World Bank loans, include revenue enhancement through expansion plans specifying equipment such as energy efficient pumps.

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***Windpower For Islands And Non-Governmental Development Project, USAID***

USAID/Indonesia's project aims to introduce wind power technology in the eastern islands of Indonesia and to involve local NGOs on these islands in providing local power needs, primarily through technology transfer. Since 1995, Windpower For Islands And Non-Governmental Development (WIND) has mapped wind power resources and installed wind monitoring equipment in 10 locations, and has conducted studies to determine the feasibility of wind-based generation and transmission projects, including commercial possibilities. It has established wind power demonstration projects at 20 sites, and has built the capacity of local NGOs and community members to establish and operate small, wind power generation and transmission facilities. WIND's overall objectives include technology demonstration, technology commercialization, institutional capacity-building. Current efforts focus on determining how to ensure project sustainability and how to best commercialize wind power in the focus area.

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## **Republic of Korea**

### ***Greenhouse Gas Reduction Program, USEPA***

This is a cooperative program to develop and implement on-the-ground greenhouse gas reductions programs. EPA proposed activity would bring together U.S. and Korean counterparts to choose 3-5 technologies and/or sectors in Korea which offer good opportunities for clean technology applications. These projects are funded by the USAID/US-AEP program.

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### ***Modeling National Economic Impacts of Climate Change Policy, USEPA***

This joint effort in Korea with national experts in economic modeling and environmental policy will develop improved capacity for analysis of costs and other economic impacts of policies to limit GHG emissions, including analysis of the economic effects of flexibility mechanisms.

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### ***Support Developing Country Constituencies for Climate Mitigation, USEPA***

This project focuses on the compilation and dissemination of information regarding the environmental and economic self-interest of developing country strategies focused on energy efficiency and renewable energy.

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## **Nepal**

### ***Forestry/Biodiversity Conservation, USAID***

USAID/Nepal's program supports increased sustainable production and sales of forest and high-value agricultural products. Participating community groups are achieving sustainable production increases. The program provides technical assistance, marketing and nutrition assistance to 500 production and marketing groups, through strengthened government capacity to provide extension services. It also supports natural resource legislation that expands community and private management of forest and water resources. More than 1,000 community forest user groups are managing communal forest areas.

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### ***Private Hydropower Development, USAID***

USAID/Nepal's program aims to increase private participation in hydropower development to promote U.S. investment in Nepal's energy sector, contribute to greater regional cooperation for water resource management, and, through export of power to India, reduce that country's dependence on thermal generation that contributes to global warming.

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## **Philippines**

### ***Buhas Greenhouse Gas Abatement Awards, USEPA***

This project provides technical assistance to the Philippines regarding the design and implementation of an awards activity to recognize outstanding achievements in the reduction of greenhouse gas emissions

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### ***Clean Coal Technology PASA, USAID***

USAID/Philippines is supporting a new Clean Coal Technology Advisor who will work with the Philippine Department of Energy on clean coal technology, power sector restructuring, natural gas development information systems renewables, and energy planning and pricing

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### ***Energy Efficiency Malls Program, USEPA***

Technology Transfer regarding energy efficiency partnerships and development of a recognition of achievement awards program

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## ***Environmental Peer Exchanges, USAID***

USAID's Global Bureau has set up a series of Peer Exchanges in three USAID-assisted countries, including the Philippines The purpose of the Philippines peer exchange is to bring together Hawaiian state energy officials with the Philippine Department of Energy to transfer Hawaiian expertise that could assist the Philippines in the use of energy-efficient technologies This is part of a larger exchange program covering three USAID-assisted countries

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### ***Green Malls Project, USAID***

USAID/Philippines has been providing technical and policy assistance to the Manila Electric Company (MERALCO) to design and launch a Green Buildings program The International Institute for Energy Conservation and MERALCO have designed and launched a voluntary program with shopping malls to implement energy efficiency measures and investments Shopping malls are one of the largest consumers of energy in the city of Manila A demonstration site to showcase Green Buildings is located in a high-profile shopping mall in the Metro Manila area more malls will be selected in the near future

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***Hawaii-Philippines Cooperation Project on Energy Efficiency and Renewable Energy, USDOE***

The U S DOE and the State of Hawaii are cooperating with the Philippines to promote environmentally-sound energy efficiency and renewable energy policies and practices in that Nation

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***Landfill Gas Utilization in Philippines, USEPA***

To date, the LMOP has conducted a feasibility study at select landfills in the Philippines and has determined that there are a few good candidates for project development. The LMOP has been working with country representatives to select and facilitate a demonstration project at a landfill site. For a while, the country has other priorities, but they are now committed to reexamining the possibility of moving forward on a demonstration project. To facilitate this, they plan to establish a task force within the country to discuss how to proceed with project development. The LMOP will meet with a country representative in September 1999 and then will help conduct the task force meeting in the Philippines in December 1999.

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***Philippines Climate Change Mitigation Program, USAID***

To mitigate GHG emissions, USAID/Philippines collaborates with 10 U S government agencies, 12 GOP agencies, and several environment sector non-governmental and private organizations. The Agency's response focuses on establishing a favorable policy and regulatory climate, increasing the availability of financing from public and private sector institutions, building capacity within host-country organizations, and transferring technologies. The Agency's technical assistance to improve energy sector policies is also providing the basis for other donors and multilateral banks (e.g., the World Bank and the Asian Development Bank) to extend energy loans to the Philippines.

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***Voluntary Program Pilot Project, USEPA***

This planned pilot project reduces greenhouse gas emissions through the use of voluntary energy efficiency and pollution prevention programs, with a focus on the food processing industry. This is funded by the USAID/US-AEP program. The program would work with key organizations in the Philippines to improve access to U S technical and policy information for cleaner production, including EPA's "Envirosense" database and information cooperatives.

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## **Small Island States**

### ***Small Island States Greening Initiative, USDOE***

The U S DOE is collaborating with the Climate Institute and member nations of the Alliance of Small Island States to increase deployment of energy-efficient and renewable energy technologies in these nations. The Climate Institute is conducting outreach and information dissemination to government leaders, policy analysts and energy officials of small island states building on prior experience in the region.

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## **Thailand**

### ***Landfill Gas Utilization Demonstration Project in Thailand, USEPA***

Since 1996 the LMOP has been working with professors at Kasetsart University (KU) to help them assess and develop a landfill gas utilization project at The Kamphang Saen Landfill. Through their partnership, the LMOP and KU hoped that they would eventually develop a pilot 870 kW project to produce electricity that the university would purchase to power campus operations. To do this, the LMOP helped them design and construct horizontal collectors in a new portion of the landfill that would serve as test wells. The tests were a success and the project is now moving forward towards full development. The LMOP is also helping the Thais to obtain additional funds for 6 gas collectors from Global Environment Facility, and they are also in the process of forming an inter-agency Landfill Gas Task Force. The LMOP will continue to provide ongoing technical support in meeting the goal for the project on-line date of December 1999.

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## **EUROPE AND EURASIA**

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### **Europe and Eurasia Regional**

#### ***EcoLinks, USAID***

The purpose of the Eurasian-American Partnerships for Environmentally Sustainable Economies, EcoLinks, is to promote market-based solutions to environmental problems in Central/Eastern Europe and the New Independent States, with emphasis on the urban and industrial sectors. The program will help create lasting, environmentally focused partnerships between local governments, private enterprises and associations in the region and in counterpart organizations in the U S, and across borders within the region. The program will also facilitate trade and investment in environmental goods and services in conformity with the statutory and policy constraints on investment promotion, as well as provide environmental professionals in the region with information about environmental laws, policies and regulations, best practices, environmental technologies and management systems.

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***Environmental Action Programme Support, USAID***

Environmental Action Programme Support (EAPS) is a component of USAID's efforts to support the EAPS formulated at Lucerne as well as a continuation of USAID's earlier related activities aimed at improving environmental management and economic development prospects in the Central and Eastern Europe and Newly Independent States regions. EAPS is designed primarily to provide technical assistance for environmental project identification, selection, development, and packaging for investment financing. In order to support indigenous sources of project financing, EAPS provided technical assistance to environmental funds in Poland, the Czech Republic, and Lithuania. On the other side of the equation, EAPS has assisted applicants to environmental funds to develop technically sound and financially viable projects. More than 100 emissions reductions projects, covering 20 municipalities, were supported in Poland. Work with 16 municipalities was completed in the Czech Republic. In Bulgaria, EAPS is providing ongoing assistance to the city of Stara Zagora to convert traditional boilers to natural gas. In Slovakia and Romania, work has focused on environmental, technical, and financial feasibility studies for polluting enterprises.

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***Environmental Information Systems And Networks Project (EISN), USAID***

A key element in finding solutions to the serious environmental situation in Central and Eastern Europe and the Newly Independent States is the sharing of environmental information. USAID's Environment and Natural Resources (ENR) division of its Europe and New Independent States (E&E) bureau created the Environmental Information Systems and Networks (EISN) project. Through this contract, DevTech Systems, an institutional contractor, assists USAID in ensuring that lessons learned regarding solutions to these problems are shared in several areas internally, externally, and regionally. Under the direction of ENR, EISN addresses environmental information needs of both USAID development professionals-in the Missions in the E&E Region and in Washington-and environmental professionals throughout the region and in the United States by developing a system for managing and disseminating environmental information.

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***Environmental Training Project, USAID***

The Environmental Training Project (ETP) is one of the ways USAID develops environmental knowledge, skills, techniques, and expertise in CEE. Administered by the Center for Nations in Transition at the Hubert Humphrey Institute of Public Affairs at the University of Minnesota, it addresses a wide range of environmental concerns in transition economies. The project, in its final year, provides environmental training to nearly 7,000 public and private sector participants in Bulgaria, the Czech Republic, Hungary, Poland, Romania, and Slovakia. In-country coordinators administer its activities. They established an independent ETP.

organization in each country to sustain services once USAID funding is completed

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***GEF Transboundary Pollution Reduction in Three Danube Tributary Basins, USAID***

Working with the Global Environment Facility, host-country counterparts and other donors, USAID has developed a project to detect and reduce transboundary pollution sources in Danube River tributaries in Romania, Slovakia, and Hungary, and to minimize the effects of pollution downstream. The project will establish a system of stations at the Ukraine/Slovakia, Slovakia/Hungary, and Romania/Hungary borders to monitor pollutants in transboundary streams. This system will be integrated with an international network of stations, coordinated through the Danube Program Coordination Unit in Vienna. Metcalf and Eddy are the prime contractors. Local subcontractors are VITUKI Innosystems and VIZ-INTER Ltd in Hungary, the Water Research Institute in Slovakia, and ICPEAR, BCEOM and PROED in Romania.

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***Industrial Waste Minimization Program, USAID***

To support the reduction of industrial pollution in CEE and the NIS, USAID supports the Industrial Waste Minimization Program (IWMP) of the World Environment Center

(WEC). Project activities are currently underway in Bulgaria, Lithuania, Poland, Romania, Slovakia, and Ukraine. USAID sponsorship of WEC activities in the Czech Republic, Hungary, and Kazakhstan has concluded. IWMP works towards low or no-cost modifications of industrial processes. This enables industries to use technologies that reduce the amount of pollutants produced during manufacturing. Investments that simultaneously better the environment, provide economic benefits, cut worker and public exposure to toxic compounds, and conserve natural resources through low and no-cost techniques are especially targeted. The IWMP strategy has three parts: Waste Minimization Demonstration Projects (WMDP), Waste Minimization Impact Projects (WMIP), and Pollution Prevention Centers (PPC).

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***Lviv Urban Water Project, USAID***

In 1996, USAID developed a project to assist the Lviv Vodokanal (LVK) management in the assessment, repair and upgrade of the city's water production and distribution system. USAID developed a plan to improve operations based on collecting fees from consumers and provided technical assistance to the LVK via an operations office established on-site. Efforts were coordinated between contractors working in Lviv, partly in order to facilitate a planned World Bank loan to Lviv and the LVK.

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***New Independent States Environmental Economics and Policy, USAID***

USAID is working with national policy makers in the Newly Independent States (NIS) to introduce market-based incentives for enhanced environmental performance and to integrate environmental considerations into economic reforms, industrial restructuring, and privatization efforts. Through a cooperative agreement with the Harvard Institute for International Development, USAID is supporting a team of policy advisors and a team of local specialists to provide advice to national policy makers in the NIS. Three Senior Environmental Policy Advisors have been placed in Russia and two in Kazakhstan.

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***Newly Independent States Industrial Waste Reduction Initiative, USAID***

The World Environment Center has recently launched its industrial waste reduction programs in Kazakhstan, Uzbekistan, and Ukraine in the

Newly Independent States. The project assists plants in the adoption of low-cost or no-cost investments which lead to significant industrial waste and pollution reductions while simultaneously lowering operating costs through decreased resource inputs and lower environmental fees. The project contributes to the on-going economic restructuring process in the region by enhancing the economic viability of recently privatized firms.

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***Supporting the Transition to a Market Economy, USAID***

USAID's Europe and Eurasia Bureau's (E&E) is supporting the transition to market economies in Eastern Europe and the NIS through the creation of a new energy efficiency services industry. More than 200 new energy service companies and consultants have grown out of E&E's program. To expand the local experts and consultants professional and business development, E&E has supported the development of 13 local chapters in 9 countries of the U.S. Association of Energy Engineers in the region.

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***Regional Networks, USAID***

Energy restructuring and privatization issues in Central and Eastern Europe and the NIS are being addressed not only by USAID-country specific activities, but also through regional

networks that are necessary for the long-term sustainability of energy systems in the region. The activities are designed to expand regional and international energy trade and the integration of energy systems with Western Europe and international energy markets.

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***Russia and Ukraine Emissions Trading and Joint Implementation Capacity Building, USDOE***

The U S DOE recently launched a \$350,000 effort to facilitate the use of clean energy technologies that could be financed through emissions trading and joint implementation (JI) in Russia and Ukraine. The Pacific Northwest National Laboratory in conjunction with in-country experts is collaborating to develop greater in-country capacity for baseline determinations, monitoring, verification, etc.

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**Albania**

***E&E-Albania Private Forestry Development Project, USAID***

Implemented by Chemonics International in partnership with the Government of Albania, local organizations and non-governmental organizations, the Albania Private Forestry Development Project is a five-year project designed to increase Albanian rural household incomes and to alleviate and ultimately reverse the degradation of Albania's forests.

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**Baltics**

***USAID/E&E Baltics Program, USAID***

USAID's Europe and Eurasia Bureau's (E&E) is supporting a regional effort to prepare a least-cost investment plan for the Baltic region and develop a regional power pool/Independent System Operator. USAID is helping to develop the capabilities of the new energy regulatory agencies in Lithuania and Latvia. The work with the Baltic States supports the U S Northeast Europe Initiative (NEI) and links with USAID work in Northwest Russia with the Finns and EBRD on a power investment program for Northwest Russia.

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## **Bulgaria**

### ***Bulgarian Energy Efficiency Demonstration Zone, USDOE***

U S DOE has worked closely with the Bulgarian Foundation for Energy Efficiency (EnEffect) to develop a plan for an \$8 million energy efficiency demonstration zone that has received funding from the Global Environment Facility. The project combines the retrofit of a school, hospital, high-rise multi-family building, industrial plant, district heating system, and street lighting with training, monitoring, evaluation and other capacity building activities. It is seen as a model for similar projects being considered in other countries in Central and Eastern Europe. U S DOE also provided technical assistance to Bulgaria when created EnEffect as a non-government organization to promote energy efficiency.

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## **Caucasus**

### ***USAID/E&E Caucasus Program, USAID***

In Georgia, USAID's Europe and Eurasia Bureau's (E&E) is working on power market development, regulatory reform, investment planning, development of geothermal resources, IFI loan preparation, and privatization of electric distribution and generation companies. USAID is also working on a petroleum law, petroleum sector restructuring, gas restructuring and regulatory development, and pipeline issues. In addition, USAID's program in Georgia supports the promotion of private sector investment to establish ESCOs and exchange information through partnerships with U S firms.

In Armenia, E&E is focusing on power market development, investment planning on alternatives to the nuclear power plant, regulatory reform, company commercialization and privatization, coal and oil resource assessment, ESCO development and hydro development projects. USAID has also provided natural gas to Armenia as part of a regional program of power restructuring and regulatory reform.

E&E's energy-efficient energy service company development (ESCO) activity in Armenia promotes private sector investment in the establishment of ESCOs and exchange of information through partnerships with U S firms. E&E has supported the development of a local chapter of the U S Association of Energy Engineers.

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## **Central Asian Republics**

### ***USAID/E&E CAR Program, USAID***

USAID's Europe and Eurasia Bureau's (E&E) is providing legal and regulatory assistance related to oil and gas development and transport in Kazakhstan, Turkmenistan, and Uzbekistan. The major emphasis has been on developing internationally acceptable petroleum laws and implementing regulations, including environmental health and safety regulations related to offshore work in the Caspian sea. A parallel effort has focused on the development of institutional and personnel capability within the governments to oversee exploration, production and transportation activities. E&E is also supporting the five CAR countries in their efforts to develop a regional power pool and to implement the Protocol on Parallel Systems Operations. In addition, E&E is providing

assistance to Kazakhstan in the development of its competitive power market and to Kyrgyzstan on regulatory development, tariff reform, privatization, and hydro optimization USAID is assisting the government of Kazakhstan in setting its greenhouse gas emissions reduction target

E&E is developing a new Caspian Environmental Partnership Program to address environmental aspects of Caspian oil development and transportation through a variety of partnerships linking entities in the U S and the CAR The partnerships focus areas include oil spill response, environmental education, regulation and information dissemination

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#### ***USAID/E&E CENTREL Program, USAID***

USAID's Europe and Eurasia Bureau's (E&E) is supporting the development of the new Polish Energy Regulatory Office and developing demand-side management programs with the distribution companies in Gliwice and Torun, focusing on municipal customers USAID is also supporting the CENTREL countries in a regional program covering transmission planning and power pool, operation, environmental coordination, and regulatory aspects of power and interconnection agreements Poland is a key country in USAID's Global Climate Change Strategy and the new DCA will provide loan guarantees for private bank loans to upgrade energy efficiency in private housing cooperatives In addition, USAID is implementing several energy efficiency demonstration projects involving performance contracting with municipalities in Poland and Hungary, and is helping the Slovak

government with phasing out heating tariff subsidies

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#### **Kazakhstan**

##### ***Coalbed Methane Projects***

EPA is working with the Kazakhstan National Environment Center, Kazakh Coal Mines, International Financiers, and U S private developers to create a comprehensive coalbed methane project in the Karaganda Coal Basin

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#### **Moldova**

##### ***Power Sector Restructuring and Privatization in Moldova, USAID***

USAID is assisting with the reform of the power sector and improved energy efficiency Power reform assistance focuses on establishing a sound legal and regulatory framework, development of the electricity market and investment plan (including linkages to Romania) privatization of the distribution and combined heat and power plants Energy efficiency assistance focuses on municipal buildings (hospitals and schools) and residential buildings and on the creation of the private sector capability to deliver energy efficiency services

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### **Russian Federation**

#### ***Center for Energy Efficiency, USEPA***

Center for Energy Efficiency (CENEf) has drafted and submitted to Russian energy authorities an alternative energy strategy, and has facilitated contacts between Western business and Russian energy companies. In 1993, EPA/OIA contributed \$100,000 toward the establishment of the CENEf, headquartered in Moscow. CENEf in its role as an energy "think tank" has been active in promoting the concept of energy efficiency in Russia. It has drafted and submitted to Russian energy authorities an alternative energy strategy for Russia, as well as promoted demonstrations of energy-saving technologies and techniques and facilitated contacts between Western business and Russian energy companies.

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#### ***Collaboration on Renewable Energy, USDOE***

U S DOE and the Russian Ministry of Fuel and Energy launched a joint program for technical collaboration on renewable energy resources. Several demonstrations include a) small wind turbine and rooftop PV power generators for demonstration projects in Fili Park in Moscow; b) wind/diesel hybrid systems in 21 sites in Russia's Northern Territories, and c) assistance in the start-up operation of a PV panel manufacturing facility in Moscow using U S technology. The U S DOE economic feasibility analysis of a 470kW wood-waste biomass electric power plant led to the World Bank

authorization of a loan for up to \$3 million to build the facility. In addition, the Intersolarcenter in Moscow has been established as a sister organization to NREL for joint R&D activities.

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#### ***Environmental Policy and Technology, Russian Air Management Program, USEPA***

The Russian Air Management Program (RAMP) is designed to demonstrate how improved institutions, policies, and practices in air-quality management can help solve air pollution problems in Russian cities. RAMP also aims to identify activities that will reduce greenhouse gas emissions.

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#### ***GAZPROM Working Group, USEPA***

This working group aims to identify and assess project opportunities to reduce methane emissions from Russia's natural gas system through the application of U S technologies. A recent achievement was completing the first actual measurement of leaks in the GAZPROM pipeline system.

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***Integrated Resource Planning, USEPA***

Project achievements include the preparation of an investment package that raised up to \$24 million for Mosenergo in the Moscow region. Also included is the development of energy regulatory bodies, consumer education about energy efficiency, and preparations for the development of an actual IRP in the North Caucasus (the Rostov, Krasnodar, and Stavropol energos).

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***Moscow Water Quality and Small Watershed Management, USAID***

The Environmental Policy and Technology Project is implementing a pilot project in the Moscow region which protects and enhances drinking water supplies in an integrated, resource efficient way. The project has both point source pollution reduction and watershed management components.

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***Nizhny Tagil Industrial Environmental Management, USAID***

The project assisted in environmentally sound industrial conversion by identifying low or no-cost production line changes that increase economic efficiency and reduce pollution. Lessons learned are being applied to other communities that must balance environmental concerns with employment considerations. To aid in this project, grants were awarded to Russian NGOs, research institutes, and other organizations to participate in various aspects of the work.

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***Novgorod Oblast Inventory Project, USEPA***

Through an interagency agreement, U S DOE, U S EPA, and Pacific Northwest National Laboratory are providing technical assistance to the Russian Federation to develop a greenhouse gas inventory for the Novgorod oblast. The Russian inventory team will also develop inventory guidelines for other oblasts and conduct a workshop on the results of the analysis (with other oblasts and Newly Independent States inventory specialists).

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***Novokuznetsk Multiple Pollution Sources Management, USAID***

Through a cooperative agreement with the City Administration and other counterparts, this project improved drinking water quality and reduced air pollution in the context of economic restructuring and sustainability. Project activities included energy efficiency audits at five boiler facilities as well as a clean coal demonstration to document energy efficiency and pollution reduction effects. The project demonstrated a 20-25% higher combustion efficiency and a 60-80% reduction in particulate emissions when using higher quality coal in district heating boilers. Further audits found that minimal investments (with payback times of less than six months) in sensors and process controls can achieve major reductions in energy use, operating expenses and air emissions in the hundreds of district heating boilers in the city. U.S. advisors also trained city air pollution personnel in techniques for establishing an air emissions inventory system, monitoring air quality, and identifying noncompliance with local standards.

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***Recovery of Fugitive Methane Emissions, USEPA***

U.S. EPA/OAR has worked on projects to recover fugitive methane emissions from Russian gas pipelines (especially the Gazprom system) and coal mines (especially the Kuzbass region in southern Siberia). Activities with gas pipelines have focused on cooperation with the U.S. private sector and on demonstrations of energy-saving techniques for compressor stations, pipe-welding, etc. A recent achievement was the first actual measurement of leaks in the Gazprom pipeline system. Activities involving coalbed methane have resulted in the establishment of a coalbed methane information clearinghouse (to promote investments in methane recovery techniques) and the completion of studies of the methane resources of individual mines.

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***Russian District Heating Initiative, USDOE***

The U.S. DOE has supported the Russian Center for Energy Efficiency (CENEf) and municipal efforts to identify, design, and finance district heating retrofits. In 1997, \$645,000 in efficiency improvements were made, increasing to an estimated \$2.4 million this year, with the bulk of the funds coming from the cities themselves. Honeywell, Inc., is participating in the projects in Chelyabinsk and Kostroma. The World Bank currently is considering a \$200 million district heating loan program to support these projects.

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### ***Russia Initiative, USAID***

USAID's Europe and Eurasia Bureau's (E&E) is supporting reform of the power sector in Russia through utility partnerships between US and Russian electric utilities. The focus of the program is on promoting best practices for commercial operation at two regional energos.

### ***Russian Far East Sustainable Natural Resources Management, USAID***

The Russian Far East (RFE) Sustainable Natural Resources Management and Biodiversity Protection Program is a three year, \$16.65 million integrated environmental program. The twin aims of the program are to promote sustainable forest management and environmentally sound forest-related enterprises, and to enhance the protection of habitats for endangered species and areas of high biodiversity.

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### ***Russian Wind-Diesel Hybrid Power Systems, USDOE***

The U.S. DOE has provided technical assistance through U.S. DOE's National Renewable Energy Laboratory (NREL) to demonstrate the large potential for wind technologies in off-grid locations in Russia's Northern Territories. NREL is collaborating with the Intersolar center in Moscow and the Northern regional governments, with financial support from USAID and the Initiative for Proliferation Prevention. Forty wind-diesel hybrid systems were installed in 21 sites in Russia's Northern Territories in 1997-98. The project includes training and monitoring and has the potential to be replicated throughout Northern Russia.

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***Russian Energy Efficient Windows Program, USDOE***

U S DOE has cooperated with U S window manufacturers to disseminate energy efficient window technologies and window rating systems to Russia and other countries with economies in transition Two workshops were held in Moscow where U S and Russian window manufacturers have developed plans for joint activities As a result, the Russian Ministry of Construction (Gosstroj) has issued new, higher energy efficiency requirements for Russian windows

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**Southern Tier**

***USAID/E&E Southern Tier Program, USAID***

USAID's Europe and Eurasia Bureau's (E&E) helped develop an electricity law and power restructuring plan for Romania which was approved by the government E&E is working closely with a World Bank/EBRD/IMF team on an overall approach to reform the power sector in Bulgaria, including support for the Energy Law that was passed by parliament in summer 1999 In addition, USAID is supporting ESCO development and municipal energy efficiency programs in Romania and Bulgaria The Romania work includes a new municipal energy financing initiative within the Southeast Europe Cooperative Initiative framework, involving financing from EBRD and private banks In Bulgaria, the projects will be supported by private bank loans with partial guarantees from DCA USAID is supporting the government of Macedonia in developing an energy tariff methodology and National Energy Strategy

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**Ukraine**

***Coal Mine Methane Reduction Initiative, Ukraine, USEPA***

In cooperation with the Government of Ukraine and USAID U S EPA is supporting work of the Alternative Fuels Center to reduce methane emissions from Ukrainian coal mines Specific activities include developing profiles of promising sites for coal mine methane projects and inventories of methane emissions from Ukrainian coal mines

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***Energy Service Company Support, USDOE***

The U S DOE has recently begun working with the European Bank for Reconstruction and Development (EBRD) to define projects for UkrEsco, a newly established Ukrainian ESCO Bechtel and Econoler will manage UkrEsco and Pacific Northwest National Laboratory will provide technical assistance to identify and developing energy efficiency projects with economic returns EBRD loans to UkrEsco are expected to finance the projects

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***Industrial Energy Efficiency Financing Project, USDOE***

The U S DOE has supported Ukrainian firms in meeting the competitiveness requirements of economic reforms by improving their energy productivity. Six large factories have approved a comprehensive package of recommendations, including installation of 30-45 megawatts of cogeneration capacity in one facility, and a multimillion dollar furnace in another. These two facilities will save a combined equivalent of 35-65 MW in capacity or up to \$19 million per year when implemented. DOE and PNNL are now helping the plants structure financing for their energy-efficiency projects.

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***Natural Gas Pipeline Efficiency Project, USDOE***

The governments of Ukraine and the United States agreed in late 1997 to make modernization and replacement of gas turbine compressor stations a top priority. The U S DOE is working closely with the Ukrainian

State Committee on Oil and Gas and UkrNaftohaz, the gas transit company, to study the feasibility of this project.

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***Pest and Pesticide Management Program, Ukraine, USAID, USEPA***

The Pest and Pesticide Management Program is a companion to the Ukraine Export Credit Insurance Program (ECIP), which is jointly sponsored by USAID and the Export-Import Bank. As an adjunct to this program, USAID commissioned an environmental review of agrochemical management in Ukraine. Its purpose was to assess current chemical management and its impacts on the environment, identify the possible impacts of the ECIP, and identify potential opportunities for USAID to assist the Ukrainian public and private sectors to improve agrochemical management.

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***Private Sector Energy Efficiency Initiative,  
USDOE***

The DOE is providing technical assistance for the design development, and financing of energy-efficiency projects Honeywell Inc has implemented a demonstration project in Kiev schools

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***Ukraine Biodiversity Conservation Assistance  
Activity, USAID***

The Ukraine Biodiversity Conservation Assistance Activity is administered by the Biodiversity Support Program (BSP), a Washington-based consortium of the World Wildlife Fund, the Nature Conservancy, and the World Resources Institute BSP works to conserve biological diversity through support of innovative projects that integrate conservation and development and that work toward information exchange and outreach

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***Ukraine Nation Environmental Action Plan  
(NEAP) Work Groups, USAID***

The "work group" program provides technical assistance, advice, and transfer of U S experience on topics of special importance to the implementation of Ukraine's National Environmental Action Plan The work groups are comprised of a cross-section of Ukrainian decision-makers with interests in environmental management issues

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***USAID/E&E Ukraine Program, USAID***

USAID's Europe and Eurasia Bureau's (E&E) major emphasis in the Ukraine is in supporting the development of a financially-viable, competitive power market including regulatory development, privatization, and business training for the electric sector, starting with distribution companies The electricity regulatory work is being expanded to include natural gas and petroleum products

USAID, in cooperation with U S DOE, is financing industrial energy efficiency demonstration projects, municipal energy efficiency activities ESCO development, investment promotion and IFI loan preparation activities in the Ukraine The US-Ukrainian Council on Sustainable Development has established an energy efficiency working group that coordinates these activities USAID is also working on policy and regulatory issues affecting the development and investment in coal bed methane USAID also financed a DOE effort for development of a model a production-sharing law that when approved, will provide the basis to stimulate foreign investment in oil and gas exploration and production

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## **LATIN AMERICA REGION**

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### **Latin America- Regional**

#### ***Assisting the Caribbean in Developing Regional Baselines for Renewable Energy and Energy Efficiency Programs, USDOE***

The U S DOE is collaborating with the Center for Clean Air Policy to provide technical assistance to Caribbean nations to increase energy efficiency and renewable energy technology diffusion The Center for Clean Air Policy is providing technical assistance on developing regional baselines for greenhouse gas emissions that can be used as the basis for developing energy efficiency and renewable energy projects under the United Nations Framework Convention on Climate Change

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### ***Central American Building Efficiency, USAID***

With funds to be allocated from those for recovery post-Hurricane Mitch, the Global Environment center plans to initiate an effort working with publicly managed buildings and municipalities in Central America to reduce energy operating costs This activity will be coordinated with the regional urban programs of USAID in Central America assisting municipal managers in identifying and implementing energy efficiency measures in buildings and public services Also, this activity will include private-public sector performance contracting The program will begin in 2000 and carry through 2002

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### ***CONCAUSA, USAID, USDOE, USEPA***

Nearly all of USAID's energy-sector assistance in Central America since 1995 has been a set of programs intended to implement the "Conjunto Centro America y USA" (CONCAUSA) Funded by USAID, USDOE and USEPA, CONCAUSA activities add new environmental activities to USAID's portfolio in the hemisphere, including workshops in Guatemala, Honduras and El Salvador on policy and regulatory reform, and supported a regional training course on the management of transmission and distribution systems USAID has also funded an analysis of the issues in power sector restructuring in Central America

Another important CONCAUSA is the establishment of the Environmental Enterprises Assistance Fund (EEAF) a non-profit investment company. EEAF directs its attention at environmentally progressive businesses and projects and provides both equity financing and loans, typically as part of a consortium of investors that it helps to organize. In 1993 EEAF set up an affiliate in San Jose, Costa Rica, Empresas Ambientales de Centro America (EACA) to identify investment opportunities throughout Central America. In March 1996 an agreement was approved between EEAF, EACA, and the Multilateral Investment Fund (MIF) to create a \$10 million environmental investment fund for Central America. This fund, the Corporacion Financiera Ambiental, invests in environmental businesses (including those involved in renewable energy and energy efficiency) in Guatemala, Belize, El Salvador, Nicaragua, Honduras, Costa Rica, and Panama. The focus is on small and medium-sized businesses with investments ranging from \$100,000 to \$750,000 in subordinate debt and equity. Capital for the fund comes from a \$4.9 million contribution from the MIF as well as money from governments, bilateral donors, and investors. The fund will be managed by EEAF and EACA, operating expenses have been supported by USAID.

USAID-funded REPSO-Guatemala operates programs that support activities throughout Central America. In 1994 USAID provided Winrock with the start-up funding for the creation of the Fundacion Solar, a local Guatemalan NGO managed by persons with significant experience in rural electrification. The goals of the Fundacion are to (1) establish an information clearinghouse for Guatemala and neighboring countries, (2) develop workshops on selected topics, (3) provide technical assistance to the private and public sectors, and (4) provide partial funding of pre-investment studies for site-specific projects. By paying some of the core expenses at the Fundacion, USAID has enabled that organization to obtain additional funding for specific projects from the

Canadian foreign aid agency, Plan International, World Vision and the Government of Guatemala. With those funds the Fundacion oversaw the introduction of solar (photovoltaic) home systems in rural villages of Guatemala and additional use of solar energy for village water-pumping installations, schools, and health clinics.

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### ***Hemispheric Clean Cities Program, USDOE***

The U.S. Department of Energy's Clean Cities Program is working to develop a public/private partnership model in Santiago, Chile in order to help build a local market for alternative transportation fuels. By using cleaner-burning, alternative fuel vehicles, Santiago will be able to improve urban air quality and lessen its dependence on one type of fuel for its transportation sector. The U.S. domestic Clean Cities Program is comprised of 76 communities and more than 35,000 stakeholders (governments, fuel providers, fleets, and automakers) working together to encourage fleet owners to purchase alternative fuel vehicles. The U.S. domestic Clean Cities Program provides support to the network of Clean Cities through competitive grant funding, decision-making tools, public information products, and case studies on fleets that are successfully using alternative fuel vehicles. Efforts are underway in Santiago to provide guidance on establishing a local Clean Cities Program and to showcase U.S. technologies. Other international projects affiliated with the Program include Ciudad de Juarez, Mexico, which is a partner in Paso del Norte Clean Cities Coalition based in El Paso, Texas, Toronto, Canada which joined in partnership with Detroit, Michigan to build a corridor of alternative fuel stations between the

two cities, and Winnipeg, Canada which is a stakeholder in the Red River Valley Clean Cities Program located in Grand Forks, North Dakota

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### ***Hemispheric Standards, USAID***

The Hemispheric Initiative focuses on promoting the development of national and regional standards for energy efficiency, especially in domestic appliances. Coordinated with the Latin American Organization for Energy Development (OLADE) the program receives funding from the U S DOE and is implemented jointly by the Alliance to Save Energy, the International Institute for Energy Conservation, and Lawrence Berkley National Laboratory. The program is scheduled to carry through 2000.

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### ***International Motor Challenge Program Latin America, USDOE***

The U S Department of Energy's Office of Energy Efficiency and Renewable Energy is partnering with developing countries to build on the U S experience and implement country specific programs to help local manufacturers reduce energy costs and increase productivity through improved industrial motor systems. Latin America efficiency opportunities are primarily focused on Brazil.

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### ***Latin America Heavy and Medium Duty Technology Initiative, USDOE***

The U S DOE is providing technical and financial assistance to the Laredo Clean Cities Coalition to develop markets for alternative fuel and energy efficient technologies for heavy and medium duty transportation sectors in Latin America. The Coalition supports a program of on-going dialogue, outreach efforts, data collection, training and technical assistance technology transfer and application of technologies. These technologies promote and develop markets for alternative fuel and energy efficiency for heavy and medium duty transportation sectors in Latin America.

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### ***Latin American Initiative for Environmental Technology, USAID***

USAID's Global Environment Center supports this initiative to help increase private-sector investment in the development of environmentally sustainable energy services in developing countries.

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***Modeling National Economic Impacts of Climate Change Policy, USEPA***

Working cooperatively with national experts in economic modeling and environmental policy this project will aid in the analysis of costs and other economic impacts of policies that limit greenhouse gas emissions including an analysis of the economic effects of flexibility mechanisms This activity includes joint efforts with four countries Argentina Brazil, Chile and Mexico

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***Post-Hurricane Mitch Infrastructure Rebuilding in Central America, USDOE***

Utilizing the strengths of several partnerships, U S DOE is collaborating with U S AID and Sandia National Laboratories to initiate programs throughout Central America focused on the sustainable use of renewable energy technologies as part of infrastructure rebuilding efforts in the wake of Hurricane Mitch Sandia is working with the National Renewable Energy Laboratory and other U S and Mexican organizations to institutionalize the use of renewable energy technologies as they address their rural infrastructure development goals This effort includes providing technical assistance, training, and assistance in the implementation of pilot projects Significant emphasis is placed on building partnerships between Mexican and U S industry to strengthen local renewable energy supply capabilities, by helping local vendors improve their system design, installation, and follow-on maintenance skills, and also improving their access to technically viable equipment

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***Renewable Energy for Chile and Argentina, USDOE***

Under this project, U S DOE is demonstrating renewable-energy technologies, project models and financial tools for delivery of clean power in remote areas in Chile and Argentina

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***Technical Assistance to Facilitate Greater Use of Renewable Energy Technologies, USDOE***

The U S DOE is collaborating with the National Renewable Energy Laboratory and the governments of Argentina, Brazil and Chile to facilitate greater use of renewable energy in these countries Activities include demonstrating commercially viable wind, photovoltaic, and hybrid technologies that are appropriate for local conditions, as well as establishing institutional, individual and business partnerships necessary to implement sustainable programs and commitments that benefit both Brazil and the United States Also provided is technical assistance for large scale rural electrification, and training and capacity building for installing and maintaining systems

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## **Argentina**

### ***Modeling National Economic Impacts of Climate Change Policy, USDOE, USEPA***

This joint effort with national experts in economic modeling and environmental policy will improve capacity for an analysis of the costs and other economic impacts of policies to limit greenhouse gas emissions

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## **Brazil**

### ***Adaptation of the North American Energy Measurement and Verification Protocol to Brazil, USAID***

Investments in energy efficiency usually require an accurate measurement of potential savings and verification of those savings after installation of equipment. Until recently, methodologies for measurement and verification have not been standardized. The U S Department of Energy has sought to address this problem by developing a standard protocol called the North American Energy Measurement

and Verification Protocol (NEMVP). USAID is currently working to adapt this protocol to a Brazilian context for the purpose of creating credible business and contractual instruments as well as channels for financing energy efficiency performance contracting. USAID has translated NEMVP into Portuguese and has presented it at a series of ESCO workshops. A working group will continue the dialog on the adaptation and adoption of the NEMVP and will issue a first protocol within six months of the workshop.

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### ***Assistance in Establishing Efficiency Standards, USAID***

USAID is working in Brazil to conduct studies on the potential for and design of appliance efficiency standards. USAID also assists Brazilian energy decision makers in developing strategies to advance building energy codes and to advance energy efficiency in the transportation sector.

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### ***Biodiversity Conservation and Sustainable Forest Management , USAID***

USAID/Brazil program focuses on global issues of biodiversity conservation and sustainable forest management through its projects in conservation management, reduced-impact forest management, and agroforestry development for small producers, fire science and management activities, and environmental

training and education USAID/Brazil participation the G-7 Pilot Program to Conserve the Brazilian Rain Forest also supports teams of qualified Brazilian scientists (based at Amazonian research centers, universities and non-governmental organizations) to address relevant natural resource issues Two key areas of interest include (a) a generation of knowledge to understand the structure and function of Amazonian ecosystems and the effects of human actions on ecosystem processes, and (b) a generation of science and technological knowledge applied to the sustainable use of such ecosystems, including the considerations of economic, social cultural and ethnic bases for sustainable use

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***Brazil Energy Training Program, USAID***

As part of a comprehensive energy training program, USAID is building capacity among Brazilian energy professionals and high-level decision makers in key aspects of private power, efficiency, and renewable energy Authorized under the Global Climate Change Initiative and funded under EIA, USAID is implementing a Brazil Energy Training Program USAID completed a draft training needs assessment for the Brazilian power sector during November 1995, and is using that assessment to prioritize training in resource assessment, renewable energy systems design and installation, integrated resources planning, demand-side management, efficiency standards development, power sector pricing, risk assessment, and other important energy-related areas To date, the project has provided training in stand-alone wind and solar energy project development, integrated resource planning, and demand side management Under the training program, USAID is also providing technical assistance to

the government of Brazil in establishing a regulatory structure using working groups derived from government and industry The program will also conduct follow-on activities including an evaluation of ongoing training and support for a training/alumni network

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***Brazilian Regulatory Executive Exchange, USAID***

Through the U S Energy Association, USAID has sponsored study tours and capacity building to assist regulatory reform in Brazil's power sector

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***Energy Efficiency in Power Sector Restructuring, USAID***

Brazil is undertaking a comprehensive restructuring, reform and privatization of its power sector in order to attract private investment and improve system efficiencies USAID provides assistance to the Brazilian government for the process regarding mechanisms for incorporating energy efficiency into the new regulatory framework USAID plans to prepare model mechanisms and assessments to contribute to the legal and regulatory frameworks These may contribute to the future of energy efficiency activities in the power sector

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***Feasibility Assessment , USAID***

USAID's Global Environment Center, in collaboration with SEMIG (a Brazilian utility company) and METALSIDER (a Brazilian pig-iron producer), performed a study for USAID/Brazil to assess the potential of using waste pig-iron blast furnace gas to power internal combustion engine generators for electricity production. There are 141 pig-iron blast furnaces in the state of Minas Gerais, Brazil that could potentially provide blast furnace gas for this purpose with estimated power generation capacity of 180 MW. This would obviate the immediate need for construction of a similar capacity fossil-fired power plant providing an annual emissions savings of 16,000 tons/year of sulfur dioxide and 840,000 tons/year of carbon dioxide and backout carbon dioxide emissions. The study assesses the potential of using blast furnace gas in a standard power generation system design that could be commercialized and replicated at multiple installations.

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***Landfill Gas Utilization in Brazil, USEPA***

EPA and Brazilian officials performed a feasibility study to examine opportunities for methane recovery projects. The LMOP helped them disseminate an request for propoals to potential developers. Project proposals have been developed and efforts are underway to facilitate private sector partnerships and development options.

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***Leveraging Funds for Energy Development, USAID***

The World Bank provides funds for rural development in Brazil through the Programa de Apoio ao Pequeno Produtor loan program (PAPP, or Small Producers Support Program). Through the PAPP Loan, renewable energy systems are one option for energy provision to productive end-users. Ten states in the north and northeast are eligible for PAPP project funds, which are limited to \$40,000 per project. Ten percent (\$4000) must be paid by the community, and the remaining ninety percent paid by the Federal government. Through the REPSO and the renewable energy industry representative, USAID provided funds to assist municipalities in best using these funds to improve their energy services and in particular to meet their energy needs with renewable energy sources. In addition, the REPSO and the renewable energy industry representative are working with the World Bank on a potential \$200 million loan for "Integrated Commercial-Social Power in Northeast Brazil" coupled with assistance for utility privatization. A preliminary study has been completed. In support of a proposed World Bank \$100 million loan package for renewable energy systems, USAID is conducting a study on the institutional and regulatory barriers to the implementation of the World Bank loan. The overall goal of this activity is to identify and recommend options for overcoming the policy regulatory, and institutional barriers to the market-based dissemination of renewable energy systems in rural areas in three target states.

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***Manaus Demand-Side Management Support,  
USAID***

USAID is working with PROCEL (Programa Nacional de Conservação de Energia Eletrica, the National Electric Energy Conservation Program) and the local utility, Eletronorte in support of pilot demand-side management activities in Manaus, Amazonas, where electricity consumption has grown rapidly in the last few years. Due to hydroelectric base generation and high thermal generation costs, demand-side management programs appear to be cost effective for both load management and energy savings. The large base of light assembly industries combined with the tropical climate, means well over half the electrical load in Manaus can be attributed to lighting and air conditioning. USAID support targets the development and start-up of air-conditioning and lighting programs in the commercial and industrial sectors. USAID is working with PROCEL and Eletronorte to develop a combination of short term measures and long-term programs.

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***Reduction of Volatile Organic Compounds  
from Landfills, USAID***

USAID's Center for Environment is collaborating with USAID/Brazil and Brazilian Ministries of Mines and Energy, Science and Technology, Environment, Water, and

American Affairs to assess the potential of using methane gas from existing and future landfills. Currently landfill methane in Brazil is being emitted to the atmosphere, resulting in the release of a potent GHG and increased respiratory ailments for residents residing near the landfills. The assessment was conducted in December 1996, and included fourteen landfill sites pre-selected as being the most representative of the landfills in Brazil. The conclusion of this effort indicates that there are viable projects and, if fully implemented, these projects would reduce methane emissions by approximately 1 million cubic meters over the next twenty years, while generating about 100 MW. Potential U.S. exports are estimated at \$200 million for equipment alone.

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***Renewable Energy Project Support Office  
(REPSO-Brazil), USAID***

Through Winrock International USAID's Global Environment Center is building a network of NGOs to increase the use of renewable energy in developing countries. Known as Renewable Energy Project Support Offices (REPSOs) these in-country facilities are managed by local institutions and are designed to provide the technical and financial assistance necessary to help identify and evaluate renewable energy projects. REPSOs are sponsored through the renewable energy activities of USAID's Center for Environment. The REPSO in Brazil is located in Salvador, Bahia and is staffed by Winrock and industry experts to work with cooperatives, NGOs and private companies interested in renewable energy projects. The REPSO-Brazil provides assistance in local market and capacity building, information dissemination, project identification and development, provision of pre-investment study

funds, and industry based training in collaboration with other energy program initiatives REPSO works closely with PRODEEM the GOB organization promoting increased social services to rural populations via renewable energy technologies

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***Resident Advisor for Energy Efficiency,  
USAID***

USAID supported the one-year residency of a U S energy efficiency expert to complement the work of various Brazilian agencies in electrical energy efficiency In addition to supporting other USAID programs in the country, the consultant assists a variety of Brazilian agencies by providing hands-on technical expertise to those involved with the national energy management program The consultants focused on four areas (1) development of market transformation programs for new technologies such as high efficiency motors and lighting systems, (2) support in the training and promotion of private energy service companies (ESCOs) in Brazil, including monitoring and evaluation programs, (3) analysis and advocacy for the development of state and national equipment and appliance efficiency standards and building energy codes, and (4) support for energy efficiency non-governmental organizations in Brazil

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***Technical Assistance to the World Bank,  
USAID***

The World Bank is instituting a \$150 million energy efficiency loan to Brazil Of this loan, 70% is directed toward utility programs, 20% toward non-utility programs, and 10% toward national programs Utility programs include both demand- and supply-side investments, including improved power generation efficiency, DSM, and reduced transmission and distribution losses Non-utility investments are in ESCO promotion, energy efficiency standards, and appliance testing and labeling Funds will also be used for technical assistance with efficiency program design and management, as well as power sector regulation formulation for Brazil USAID assisted the World Bank with design of the loan

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***USAID Support to ANEEL (National Agency  
for Electric Power, Brazil), USAID***

The Agência Nacional de Energia Elétrica (ANEEL), or National Agency for Electric Power, is the established Federal Power Regulatory Agency, Brazil ANEEL is establishing the regulatory regime necessary to provide the right signals to the market to support the national energy policies promulgated by NEPC USAID/Brazil plans to assist ANEEL/PROCEL's on-going work to develop enhanced eligibility criteria set for energy efficiency projects proposed to ANEEL These projects are to be funded through the mandatory investment that private utilities are required to make in energy efficiency projects (one percent of gross revenues) USAID is also cost sharing with ANEEL a regulatory partnership between with three U S Public State Utility Commissions to facilitate the sharing of

U S regulatory expertise with Brazilian regulatory agencies

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***USAID Support to MME, SEN & NEPC, USAID***

USAID/Brazil is planning to assist the Brazil Ministry of Mines and Energy (MME) through its Secretariat of Energy (SEN) in the preparatory work for the National Energy Policy Council (NEPC) USAID will provide specific training and advisory services on energy policy and programmatic issues, such as rural clean energy applications and energy efficiency Through these activities, USAID/Brazil is addressing the following key issues assisting policy, regulation, and the training and technology supportive of market-oriented clean energy production and use

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***USAID Support of the National Program for Electrical Energy Conservation (PROCEL), USAID***

PROCEL is the official program for energy efficiency in Brazil's Ministry of Mines and Energy Assistance is needed in designing and implementing state of the art efficiency, monitoring and verification programs In the past, USAID/Brazil has funded an energy efficiency advisor to work with PROCEL, and plans to continue its assistance in coordination with ANEEL This serves to include energy efficiency into Brazil new regulatory regime More specifically, USAID is working with

ANEEL to investigate a set of criteria on how the one percent energy efficiency levy is to be targeted in energy efficiency projects PROCEL and ANEEL will have to deal heavily with utilities in order to enforce the one percent energy efficiency regulations

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***U S Renewable Energy Industry Representative, USAID***

USAID funds an industry representative in Brazil to work with cooperatives, NGOs, and private companies interested in non-hydroelectric renewable energy projects The industry representative assists coordination of meetings between Brazilian government officials and U S government and industry The representative is also cooperating with, marketing, and supporting the REPSO cost-share program and solicitation General duties of the industry representative involve industry collaboration, financial mechanisms for renewable energy projects, utility scale project identification and partnering, and role of gender in productive uses of renewable energy Specific programs of the industry representative are (a) technical assistance to the Brazil Energy for Social and Rural Development Program (PRODEEM), (b) utility collaboration (the representative links U S industry to various on-grid renewables projects, including several biomass energy projects and a large wind farm), (c) Brazilian NGO support, and (d) trade delegation support

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## **Mexico**

### ***Border Energy Forum, USDOE***

Together the U S and Mexican Departments of Energy launched the Border Energy Forum to address the vital issues of energy and the environment that affect the rapidly developing region of northern Mexico and the southwestern United States. Each year, from both countries, a broad spectrum of leaders from industry, government, educational institutions and environmental organizations will convene to develop mutually beneficial strategies for addressing these issues.

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### ***Fuel-Cell Buses, USEPA***

This demonstrates the use of zero emissions buses in Mexico City. The program also informs operators and potential buyers of fuel cell technologies.

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### ***Landfill Gas Utilization at the Prados De La Montana Landfill in Mexico City, Mexico, USEPA***

Description: EPA performed feasibility assessment and is currently working with Mexican officials towards the development of a demonstration project of effective landfill methane recovery methods. In 1998 the LMOP and signed a technical Co-operation agreement with the Mexican government.

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### ***Mexico Environmental Management Project, USAID***

USAID/Mexico has strengthened Mexican electric sector institutions (FIDE and CONAE), leading to the design and implementation of a five-year national-scale incentives/rebates program, and elevated Mexico to a regional energy efficiency leadership position.

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### ***Power Wheeling/Mexico, USAID***

USAID's Global Environment Center and the USAID/Mexico are working together to support a major investigation of the legal, regulatory, and environmental factors affecting cross-border trade in electricity between the U S and Mexico. Cross-border trading between the two countries could optimize the power generation mix, thereby achieving greenhouse gas reductions.

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***Reduction of Power Station Emissions in Mexico, USAID***

USAID/Mexico and USAID's Global Environment Center are collaborating with EPRI to accelerate the transfer of environmental control technologies to CFE. The program aims to promote implementation of energy efficiency technologies and introduce low carbon-emitting energy systems through the private sector and public/private partnerships.

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***Reduction of Refinery Emissions in Mexico, USAID***

USAID/Mexico and USAID's Global Environment Center are collaborating with PEMEX to accelerate transfer of environmental control technologies. The program aims to promote the implementation of energy efficiency technologies and introduce low carbon-emitting energy systems through the private sector and public/private partnerships.

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***Support for Deployment of Renewable Energy and Energy Efficiency Projects in Mexico, USDOE***

The U.S. DOE is collaborating with Eenergy International Corporation and also with counterparts in Mexico to establish a framework for the commercially sustainable development of renewable energy and energy efficiency projects in Mexico.

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***Transportation & Electric Vehicles, USAID***

USAID/Mexico and USAID's Global Environment Center are sponsoring activities designed to leverage public and private investments in electric vehicles. A prime objective of the program is to reduce particulate matter and lead in the urban environment.

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