



## PROMOTING PROGRAMS TO COMBAT CLIMATE CHANGE

U.S. firms possess technologies that offer competitive solutions to combat the release of pollutants that are leading to climate change. The U.S. Trade and Development Agency (USTDA) is helping to connect these firms with overseas project sponsors, to achieve important objectives in areas such as clean energy development, emissions monitoring and alternative sources of energy that are more environmentally-friendly.

Recent USTDA projects in the environmental sector include:

### East Asia

***China Coal Mine/Coal Bed Methane (CBM) Power Plant*** – USTDA approved \$502,850 to provide technical assistance on the construction of a 120-megawatt (MW) power plant in Shanxi Province that uses coal mine/CBM as a feedstock. The project is being implemented through a partnership involving Chinese coal mining and power utility companies, Caterpillar, Inc., and the Asian Development Bank. The project has generated over \$40 million in U.S. exports and is reducing pollutants through greater dependence on a clean fuel source.

***China Shanxi Continuous Emissions Monitoring System*** – USTDA is providing \$186,400 to Shanxi Provincial Environmental Protection Bureau (EPB) to partially fund analysis on continuous emissions monitoring systems in coal-fired power plants and industrial facilities across Shanxi. The study will assess the improvements mandated by environmental regulations, and will provide information on U.S. technologies for CEMS installation and operation.

***Shandong Flue Gas Denitrification*** - USTDA is providing \$600,000 to the Shandong EPB to support a feasibility study to examine effective measures to limit nitrogen oxide (NOx) emissions from coal-fired power plants in Shandong Province. Shandong Province is home to over 400 coal-fired power plants, nearly all of which lack NOx removal systems. This study is assisting Shandong EPB with the identification, technical specification and installation of advanced U.S. technology for power plant system retrofits, with the goal of incorporating this technology at similar facilities throughout the province.

### Europe and Eurasia

***Turkey Germencik Geothermal*** – USTDA provided a \$259,621 grant to Gurmat Energy Investment and Trade Co. for a study on a geothermal power plant at Germencik, Turkey. Stone and Webster of the Shaw Group performed the study. Based on the study a 40 MW power plant is under construction, using more than \$23 million in U.S. exports.

***Georgia Coal Bed Methane / Coal Mine Methane*** – USTDA is providing \$540,000 to partially fund a feasibility study on recovering methane from coal seams, active coal mines, and abandoned coal mines in the Tkibuli-Shaori Coal Basin. Advanced Resources International of Fairfax, VA, is conducting the study.

***Turkey Soma Wind Farm*** – USTDA is providing a \$245,780 grant to Bilgin Elektrik for a feasibility study on the development of a 30-90MW wind farm in Soma, western Turkey. If implemented, the facility would buttress power output in a high-demand energy market while helping to satisfy renewable energy use requirements. Electric Power Engineers of Waco, TX, is conducting the study.

### Latin America and the Caribbean

***Mexico CFE Environmental Management Project*** — USTDA is providing \$640,500 to Mexico's Comisión Federal de Electricidad (CFE) to strengthen environmental management at its power plants, substations, and power transmission and distribution facilities. The technical assistance is designed to help CFE meet its long-term needs for environmental management at its operating facilities.

***Colombia Civil Aviation Renewable Energy*** – USTDA provided \$700,000 to the Unidad Administrativa Especial de Aeronautica Civil (AeroCivil) to assist in the conversion of its power supply for remote air traffic control and weather monitoring facilities from diesel generators to renewable energy sources. The project will improve the reliability of remote power supply infrastructure, while reducing cost.

***Colombia Geothermal Power Generation*** – USTDA is providing \$599,310 to ISAGEN S.A., a leading Colombian power company, to support the development of a 50 MW geothermal power generation project. The study will assist in diversifying Colombia's energy supply and limiting emissions from carbon-intensive gas and coal.

**Uruguay Clean Coal Technology Feasibility Study** – USTDA is funding a \$419,729 feasibility study grant to Uruguay's National Administration for Electric Supply and Transmission (UTE) for a proposed 300 megawatt coal-fired power plant that would use clean coal technology.

## **Sub-Saharan Africa**

**Botswana CO<sub>2</sub> Sequestration for Enhanced Coal Bed Methane (CBM)** - USTDA is providing a \$435,970 grant to the Ministry of Minerals, Energy, and Water Affairs in Botswana to study the possibility of utilizing CO<sub>2</sub> sequestration to enhance the capture of CBM. The study will evaluate the economic and environmental costs and benefits, including a strategy for addressing the issue of carbon credit financing. The study will also assess the regulatory issues and legislative requirements required to facilitate project implementation.

**Botswana CBM Feasibility Study** - In 2003, USTDA provided a \$525,000 grant to the Botswana Development Corporation for a study on CBM development. The study resulted in an investment by Covalent Energy (Virginia) in the Kalahari Gas Company of Botswana to undertake a pilot drilling and development CBM project. Covalent Energy and the Kalahari Gas Company have received an Overseas Private Investment Corporation loan guarantee to support the implementation of the pilot project.

## **South and Southeast Asia**

**Indonesia Seulawah Agam Geothermal Power Plant** - USTDA is providing \$589,000 for a study of a proposed geothermal power plant in Aceh Province. Aceh's power generation capabilities were severely damaged during the 2004 earthquakes and tsunami, and the plant could present a reliable, environmentally advantageous method to restore power to the area. Stone & Webster/Shaw Group is the contractor for this study.

**India Sohagpur Coal Bed Methane Project** - This \$506,000 technical assistance cooperation with Reliance Industries Limited (RIL), a private Indian company and a leader in the effort to develop India's coal bed methane (CBM) resources, supports development of the Sohagpur CBM project, which is slated to be the first commercial CBM project in India. India has prioritized the development of CBM as a means to meet the country's growing energy demands utilizing domestic supply sources. Specifically, the grant assists RIL in assessing the market and gas infrastructure requirements for the commercial development of particular concession blocks.

**Regional Aviation Environmental Best Practices** – USTDA sponsored an orientation visit that brought government aviation officials from China, India, Malaysia, and Thailand to the United States to highlight U.S. technological solutions and operational best practices for reducing aviation noise, addressing water quality issues, and reducing emissions and fuel burn. The itinerary also encouraged greater collaboration between the U.S. government and the represented countries in support of the environmental stewardship initiatives.

**Pakistan Waste-to-Energy (WTE) Plant** – A \$325,000 grant to Pakistan's Alternative Energy Development Board is funding an evaluation of the technical and financial merits of establishing a scalable 5-10 megawatt WTE power plant near Karachi. The grant is being used to implement pilot project that will demonstrate the ability of WTE plants to address environmental issues, as well as critical power shortages and fuel importation costs facing Pakistan.