



PROMOTING ENVIRONMENTAL TECHNOLOGIES

U.S. firms possess technologies that offer competitive solutions to environmental issues in developing countries. 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 water treatment, air quality and hazardous waste management.

In fiscal year 2008, USTDA invested in 12 new environmental projects around the world. In addition to water, wastewater and air projects, USTDA has supported numerous power plant conversions from coal to gas, technology upgrades to lower emissions, rail transport projects to reduce road congestion and many other environmentally beneficial initiatives. Recent USTDA projects in the environmental sector include:

East Asia

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. Thermo Electron is conducting the study.

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.

Han River Non-Point Source Monitoring System and Improvement - USTDA is providing \$532,692 to the Changjiang (Yangtze) Water Resources Commission for a study on the creation of an integrated water quality monitoring system in the Han River basin of the Yangtze River. This study is being conducted by the MapTech, Inc. and will include a pilot demonstration of pollution tracking technology and the development of an implementation plan for system deployment.

Europe and Eurasia

Romania Siret River Basin WATFRAME Project - USTDA provided a \$562,080 grant to the Romanian Ministry of

Environment and Water Management (MEWM) for a study on a potential pilot project to improve existing and/or develop new drinking water and wastewater treatment facilities for four municipalities in the Siret River Basin region in Romania. Camp Dresser and McKee International of Boston, MA, is conducting the study.

Black Sea Coastal Erosion Control Program Phase I – A \$385,772 grant to the Romanian Ministry of Environment and Sustainable Development helping to set up an Integrated Coastal Zone Modeling System (ICZMS), which will develop analytical tools to assess erosion control measures along Romania's Black Sea coast. This technical assistance activity represents the first of four phases in the Ministry's Coastal Erosion Control Program. Black & Veatch of Alpharetta, GA, is conducting this assistance activity.

Croatia Meteorological and Hydrological Service Modernization – USTDA is providing \$495,760 to the Meteorological and Hydrological Service (MHS) of Croatia to fund the development of an integrated weather and water monitoring system in Croatia. The feasibility study will assist MHS in developing a system to provide timely alerts and warnings to the government and general public regarding impending weather events. The College of Atmospheric and Geographic Sciences at the University of Oklahoma in Norman, OK, is conducting the study.

Montenegro Revolving Water Fund for Water Utilities Improvement – A \$463,950 grant to the Montenegro Ministry of Environmental Protection and Physical Planning is helping to establish a revolving investment fund for the Montenegrin water sector. The International Association of Development Funds of Bethesda, MD, provided the assistance.

Latin America and the Caribbean

Brazil COPASA Water Re-Use Project - A \$164,920 grant to the Companhia de Saneamento de Minas Gerais (COPASA) is helping to plan a water re-use project at the Arrudas Wastewater Treatment Plant. The project involves adding tertiary treatment capacity to produce an effluent that meets water quality requirements for urban residential, commercial and industrial water needs.

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.

Mexico Puerto Peñasco Water Desalination Facility – USTDA is providing \$369,325 to the Municipality of Puerto Peñasco in the state of Sonora, Mexico, for a study on a proposed municipal water desalination facility. The study will assess the technical, economic, financial, environmental and regulatory feasibility of the project.

Peru Lima Integrated Solid Waste Management – A \$441,960 grant to the Metropolitan Municipality of Lima is funding a study on enhancing municipal solid waste management and collection in Peru's capital and largest city. The development of a comprehensive and integrated approach to municipal solid waste management, collection, and disposal in Lima will improve environmental and public health conditions.

Middle East and North Africa

Jordan Wastewater Treatment - USTDA is funding a \$450,000 grant to the Jordanian Ministry of Planning and International Cooperation, acting through the Water Authority of Jordan, to fund early investment analysis on the construction of a wastewater treatment plant to serve the towns west of Salt City in the Balqa'a governorate of Jordan. CH2M HILL is carrying out the feasibility study.

Jordan Water Orientation Visit - USTDA is funding an orientation visit to the United States to familiarize Jordanian public sector water officials and large scale water users with U.S. water reuse and loss reduction equipment, services, and technology. The visit will build on three ongoing USTDA-funded water sector activities, and will provide an opportunity for senior Jordanian officials to continue discussions with Millennium Challenge Corporation (MCC) representatives involved in developing the country's MCC Compact proposal, which is expected to focus on the water sector. Global Marketing & Communications will be conducting the visit, which is expected to take place in 2009.

Morocco Olive Oil Waste Treatment – USTDA awarded a \$322,000 grant to fund early investment analysis on a proposed wastewater treatment facility for Moroccan olive oil factories. The study is being performed in an effort to increase the potable water supply in rural communities and to allow Morocco to comply with international environmental regulations. Global Environmental Sustainability, Inc. (GESI) is carrying out the study.

Geographic Information System (GIS) - USTDA is funding a \$385,876 grant to the Moroccan Office for Potable Water (ONEP) to fund a Technical Assistance for a GIS system in Morocco. The implementation of a GIS system for water resource management will support ONEP's efforts to further modernize its production and distribution of potable water.

South and Southeast Asia

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.

Philippines Wastewater Treatment Systems and Facility Upgrades for Commercial Users – A \$442,000 grant to the Manila Water Company, Inc. is helping to implement improvements to wastewater services to commercial and industrial traders and wastewater dischargers in the east zone of Metro Manila. The wastewater treatment technology solutions and facilities upgrades will reduce trade effluent discharge to the Philippines' river systems and enhance wastewater treatment reuse for businesses.

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.

Sri Lanka Sewerage Infrastructure – A \$491,000 grant to the Ministry of Urban Development and Water Supply is funding a study on a proposed piped sewerage and sanitation system in coastal cities affected by the tsunami. The study will develop a preliminary conceptual design for a network with various treatment options. B&E Engineers of Arcadia, CA, is performing the study.

Sub-Saharan Africa

Botswana Water Well Rehabilitation Project – A \$500,000 USTDA grant is partially funding technical assistance to the Ministry of Finance and Development Planning in Botswana on a borehole rehabilitation project. The technical assistance includes the rehabilitation of at least 35 wells, training of the Department of Water Affairs personnel, and setting the foundation of a system-wide well rehabilitation master plan. The study is being carried out by Roscoe Moss Company of Los Angeles, CA.

South Africa Rand Water Services New Technology Implementation – In June 2008, USTDA partially funded an orientation visit to the United States on water system technology for five representatives of Rand Water Systems (Pty) Ltd. (RWS) of South Africa. The visit assisted RWS in identifying and evaluating the most appropriate U.S. technologies and applications for the water services sector in Southern Africa. The Cornell Group organized the visit.

Senegal Corniche West Wastewater Treatment - A \$418,908 USTDA grant is funding a study on the wastewater collection and treatment facilities for the Corniche West sector in the City of Dakar. Hazen and Sawyer is the competitively-chosen contractor for this study.