



Landfills

Capturing and using methane emitted from landfills is a reliable and renewable fuel option that represents a largely untapped environmental and energy opportunity at thousands of landfills around the world. Many nations lack essential information about their landfill gas-to-energy potential as well as the funding and technical expertise necessary for project development. The United States is working with its partners to ensure that more LFG reaches energy markets. The U.S. government is providing expertise in landfill data collection, developing technical capacity, and funding pre-feasibility studies to catalyze projects. Some of the U.S. governments support activities and accomplishments are highlighted below.

Promoting LFG Projects in Latin America

EPA collaborated with the World Bank to host the Latin American LFG Project Expo in July 2005, in Montevideo, Uruguay. The objective of the event was to discuss the pre-feasibility study results for 10 Latin American landfills developed by the World Bank with financial support from the Canadian International Development Agency (CIDA). The goal of the Expo was

to encourage landfill representatives from the 10 sites to engage the private sector to seek investment opportunities for LFG projects. At least five of the 10 landfills featured at the event are proceeding to implement full-scale methane recovery projects.

Identifying Landfill Gas-to-Energy Project Opportunities

EPA has spearheaded development of a global database of disposal sites and LFG project opportunities in Partner Countries. The database will identify landfill candidates for technical evaluation, project development opportunities, and investment opportunities.

The database will be launched by 2007 on an easily accessible, Web-based platform enabling project developers from any country to easily identify LFG project opportunities and bring more projects online quickly. This will present a crucial tool for the 2007 Partnership Expo, enabling project owners to overcome some of the key challenges to landfill project development.

Landfill Gas-to-Energy Training and Capacity Building

A major barrier to project development in the landfill sector is a lack of knowledge about the opportunities and benefits of LFG capture and use projects by local landfill operators and municipalities. To overcome this barrier and build local capacity in Partner Countries, EPA developed and co-sponsored a number of workshops and training seminars on landfill methane recovery, project planning, technology options, and financing. Some of these included:

- A 2-day LFG workshop in Moscow in May 2005, which attracted more than 80 solid waste professionals from the region.
- LFG workshops in Delhi and Mumbai, India, in March 2006, co-sponsored by the Federation of Indian Chambers of Commerce and Industry (FICCI).

Landfill Gas-to-Energy in Brazil

In Brazil, 84 percent of methane emissions come from municipal solid waste. Landfills across Brazil have an estimated overall generation rate of 303 to 578 million cubic meters per year, capable of providing 60 to 144 MW of electricity. Nevertheless, very little methane is recovered from landfills. USAID is supporting the implementation of a LFG-fired power plant in the city of Fortaleza, Ceará State. As part of this project, USAID is providing technical assistance, conducting a feasibility study, promoting social inclusion activities to benefit the communities of waste scavengers living at the landfill surroundings, and organizing a workshop directed to other municipalities that have landfills with



Landfill Gas Project Development in Mexico

On March 24, 2006, EPA, USAID, and the Mexican Secretariat of Environment and Natural Resources (SEMARNAT) signed a Letter of Cooperation stating their commitment to collaborate on Methane to Markets activities in Mexico. Under this agreement, two landfills along the U.S.-Mexico border were identified for project development. These agencies, in addition to the North American Development Bank, and the Border Environmental Cooperation Commission, subsequently visited the cities of Nuevo Laredo and Ensenada to gather more information and meet with local officials.

These LFG projects are expected to reduce emissions by more than 45,000 MTCO₂E each year. USAID estimates that annual emission reductions of more than 300,000 MTCO₂E could be achieved if projects are implemented in the 14 most important landfills in the region. Replication of similar landfill projects on a national scale could reduce GHG emissions by 3 MMTCO₂E per year.

potential use for methane recovery. As a result of this project, an amount equivalent to 2.5 MMTCO₂E emissions will be avoided from 2007 through 2012.