

CHALLENGES

Mexico's development challenges are particularly pressing in the water scarce areas of the northern border region. Existing water and energy infrastructure is insufficient for the growing population and economic activity, and the municipalities operating these systems are straining to meet rising costs and management challenges.

In response to these challenges, and building upon existing Watergy initiatives in other regions of Mexico, elsewhere in Latin America, and in Asia and Africa, the Alliance to Save Energy (www.ase.org) is undertaking the development of a municipal Watergy initiative tailored to the specific needs of Mexico's border region.

OBJECTIVES

The purpose of the Mexico Watergy program is to:

- Partner with municipal water utilities to jointly develop pilot projects that demonstrate energy efficiency measures and savings in action.
- Implement capacity building seminars based on pilot projects, to demonstrate the potential for savings through energy and water efficiency.
- Undertake comprehensive energy audits of water treatment and distribution systems with a focus on energy and water efficiency opportunities.
- Recommend low and no-cost efficiency measures that utilities can undertake as part of daily operations and maintenance activities.
- Collect data on implementation of energy efficiency measures, quantifying energy saved, CO₂ emissions avoided, dollars saved, and improvement in service.
- Catalyze financing for energy and water efficiency measures, through discussions with national and regional development banks, national energy efficiency programs, local power and water utilities, and the private sector.



- Encourage long-term in-house monitoring and verification of energy efficiency indicators.

APPROACH

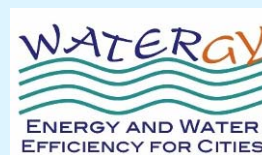
The Alliance's Watergy program promotes energy and water efficiency as a path to improved sustainability. By focusing on improved management of both resources, utilities can expand water access to those lacking formal water connections, reduce environmental impacts posed by power generation and ground water extraction, and reduce operating costs associated with pumping water over long distances and treating that water for distribution.

RESULTS

The Alliance's work in Mexico began in the gulf city of Veracruz. Energy efficiency measures identified through the Watergy program have resulted in a 45% reduction in electricity consumption for the local water utility. Customer complaints concerning poor water pressure, once the norm, have completely dried up allowing the utility to raise water rates. As a result of reduced energy costs and increased tariffs, the local water utility has transitioned from being unable to meet even basic operation and maintenance costs without a large state subsidy, to acquiring adequate revenue to invest in new state of the art control



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systems that will lead to additional savings and service improvements.

The Alliance launched its US-Mexico border initiative in 2003, building strong partnerships based upon common objectives with Tijuana's water utility, CESPT, and the utility in Monclova (Coahuila), SIMAS. CESPT has some of the highest energy costs of any water utility in Mexico and prior to its partnership with the Alliance had already undertaken extensive water conservation and education campaigns. The Watergy program incorporates an energy efficiency component into this effort that will allow the utility to reap additional gains from a coordinated energy and water efficiency approach. Initial data from energy audits in Tijuana point to potential savings of US\$110,000 from adjustments in electricity rates and a power factor correction alone. In Monclova, the projected energy savings in pumping systems is estimated at approximately 44%. Three Watergy efficiency seminars have already been held in conjunction with Coahuila's State Water Commission (CEAC) to reach out to other utilities across the state.

“Through this Watergy approach we (SAS) have been able to eliminate customer complaints while at the same time saving almost 50% over the amount of energy previously consumed by operations in these areas...”

- Ing. Efrain Deschamps, General Manager, Sistema de Agua y Saneamiento de Veracruz (SAS)

The most exciting development from these activities is the increasing role being played by the private sector in promoting energy efficiency. The capacity building component of this project is supported in large part by both Mexican and U.S. companies with technology and services focused on metering and monitoring, high efficiency pumps and motors, and hydraulic modeling applications. The existing pent-up market demand for energy efficiency technology and services has allowed water utilities across Mexico to come into direct contact with the new thinking and approaches required

to make this vital component of the country's infrastructure more efficient and better able to support the country's future economic development.

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Last Update: April 2005

This work is funded by the U.S. Agency
for International Development



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FROM THE AMERICAN PEOPLE

Watergy: Helping cities manage water and wastewater efficiently, saving energy, water and money