Alliance to Save Energy
PHILIPPINES FACT SHEET

CHALLENGES

The World Bank estimates that roughly 35 percent of Filipinos are without access to clean drinking water and 65 percent lack water for sanitation. The issues overwhelming the water sector include disparities in water supply coverage across regions, depletion of groundwater, and undercapitalized municipalities. Filipino municipalities lack sufficient management capacity and resources to make the dramatic improvements necessary to expand service coverage. By focusing on the elimination of these inefficiencies, the quality and quantity of water services to the country's poor can be dramatically increased.

BACKGROUND

The Alliance to Save Energy, with funding from the U.S.-Asia Environmental Partnership (US-AEP), a program of the U.S. Agency for International Development, has partnered with two water districts in Iloilo and Cebu to carry out a municipal water and energy efficiency program in the Philippines. The water districts in Cebu and Iloilo face severe water resource scarcity and disproportionately high electricity costs caused by water pumping in both cities. By improving the efficiency of the existing pumping systems within these districts, resources can be put to more productive use while municipal budgets can be better allocated through reduced pumping costs.

OBJECTIVES

The goals of the program are to:

1. Improve overall system efficiency in municipal water systems, reducing costs and negative environmental impacts, while expanding water and wastewater services to the country's underserved populations.
2. Build capacity of municipalities, water utilities, companies and NGOs focused upon urban infrastructure development to develop a comprehensive strategy to work on identifying the potential for energy savings from this often overlooked sector.
3. Create efficiency models based upon capacity building partnerships with local water and wastewater municipal entities to ensure sustainability within the country.

APPROACH

In 2004, the program focused on building the capacity of local groups to conduct energy audits in Filipino water utilities. With assistance from The Energy Research Institute in India, the Alliance trained a group of engineers from the Energy Managers Association of the Philippines (ENMAP) and the University of the Philippines (UP) to conduct a comprehensive energy efficiency audit of the Municipal Iloilo Water District (MIWD).

The auditors also provided MCWD with comprehensive classroom training on energy audits. Data supporting the energy savings associated with implementation of recommendations provided will be used to interest other local municipalities to incorporate energy efficiency into their operations and maintenance programs and replicate the municipal efficiency model in other areas of the country. The Alliance also continues to engage in outreach efforts to create a network of appropriate private sector manufacturers of high-efficiency water and energy technology and services.

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RESULTS

The Alliance's work in the Philippines began in the city of Iloilo with MIWD and continued with a second energy audit in MCWD in 2004. The MIWD audit was the first known, comprehensive energy audit to be conducted in a Filipino water utility. UP engineers, as a result of this training, designed and instated a water utility energy auditing course within its College of Engineering.

Based on the knowledge and experience gained by these engineers, the Alliance hired a team of auditors from ENMAP and UP to conduct a similar energy audit in the Municipal Cebu Water District (MCWD). MIWD has established an action plan to completely implement the energy efficiency recommendations identified in the energy audit, and it has started to execute select recommendations including the replacement of one pump and motor unit, procurement of four additional pump units for replacement. and monitoring of direct injection of alum into the upper level pumping station.

MIWD will invest $127,905 to implement the recommendations, $64,664 of which comes from a Local Water Utilities Administration (LWUA), and Asian Development Bank (ADB) loan.

MCWD has also established a time frame to implement recommendations from their energy audit. They have started rehabilitation work for a 100 hp pump, including installation of new controls, and they are re-piping wells affected by iron bacteria. MCWD is investing $171,376 over a five year period to implement recommendations. Savings from the audits will help water districts increase their water supply coverage and improve aging infrastructure. The most significant outcome of these energy audits is the training of local Filipino engineers to conduct future energy audits in other water districts.

To build upon this work and establish a network of energy and water technology and service providers in the Philippines, the Alliance organized seminars on street lighting and energy efficiency in both Cebu and Iloilo, in addition to a Watergy conference in Iloilo to disseminate the results of the energy audit held in MIWD. The conference provided information on the status of the MIWD audit program implementation, non-revenue water reduction, water quality and tariff issues, and updated participants on new technologies.

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