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Watergy – Water and Energy Efficiency



Energy efficiency plays an important part in saving energy and water in municipalities.

The challenge of providing service to the 3 billion people estimated to be without access to water by the year 2025 cannot be met through traditional methods. Meeting this challenge will require new resource management approaches, locally driven decision-making, innovations in finance, and new low-cost technologies. Energy efficiency has an important part to play in all of these elements and the Watergy initiative will help lead to greater water access for all.

In 2000 the US Agency for International Development (USAID) and the Alliance to Save Energy began promoting energy and water efficiency opportunities in the municipal water sector through the Watergy Program. Saving energy in water systems often decreases the stress on often over-burdened local water supplies by reducing water waste. The sector was found to be ripe with opportunities to save energy. As USAID and the Alliance worked with municipal water utilities around the world to help

them realize potential energy savings, it became apparent that their work was having a number of other positive effects.

In water stressed South Africa, the USAID and Alliance helped the city of Mogale repair some of its pressure reduction valves saving 263,000 kℓ per month or 12% of its total water use. While the investment costs are minimal, it will save about US\$1.2 million a year and reduce stress on limited water resources.

Even more significantly, by applying the Watergy model, municipal utilities have drastically improved service quality, increased access to water, and reduced their costs. In Fortaleza, Brazil, a city of 2 million people in the arid northeast of Brazil, Watergy projects enabled the utility to provide service to an estimated 350,000 people who previously had not had in-home water connections. And this was accomplished without increasing the amount of water entering the system and still reducing total energy consumption.

USAID and the Alliance have helped create the Brazil Water Efficiency Network as a membership organization for water utilities to share experience, resources, and know-how on how to improve their efficiencies. Similarly, in Veracruz, Mexico, energy efficiency projects identified through the Watergy Program have enabled the local water company to reduce its electricity consumption by approximately 22% in over half the system. It has reinvested the savings in additional projects that are projected to have a similar result in the other half of the system by year's end. Customer complaints about poor water pressure, once the norm, have completely dried up. Greater customer satisfaction has in turn allowed the utility to raise water rates. This combination of reduced energy costs and increased tariffs has enabled the water utility to

go from being unable to meet even basic operation and maintenance costs without a large state subsidy to actually having enough revenue to invest in new state of the art control systems that will lead to additional savings and service improvements.

In India, Watergy has developed another exciting linkage by leveraging existing multilateral development bank loans to further the cause of efficiency. Through the process of identifying energy efficiency opportunities in pilot municipal water systems and encouraging the state government of Karnataka to actively pursue efficiency opportunities, USAID and the Alliance have been able to convince the World Bank to make Watergy efficiency activities a key portion of a US\$50 million urban development loan package to the state. The message is getting out that efficiency is cheaper and more effective in improving services in many cases than new construction.

Potentially the most exciting outcome of the Watergy Program is the response of the private sector. Sensing the pent-up demand for energy efficiency goods and services resulting from the project, the private sector has contributed time, money and equipment to demonstrate the potential for energy savings in the water sector in various countries around the world. USAID and the Alliance have also leveraged millions of dollars in multilateral development bank loans for major efficiency components that are now included in water sector investments.

“The integrated concept of efficiency that Watergy offered has motivated SAS to not only achieve savings but to also improve the service in specific neighborhoods within our service area. Through this Watergy approach we 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...”

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