



Clean Water State Revolving Fund Green Project Reserve



Case Study: Inland Empire Utility Agency Creating a Sustainable Wastewater Utility in California

The Inland Empire Utilities Agency (IEUA) – a regional wastewater service provider and distributor of wholesale water and recycled water that serves 242 square miles in the western portion of San Bernardino County – received more than \$30 million in financing from the American Recovery and Reinvestment Act (ARRA). IEUA used these federal funds to invest in water recycling and reuse that will save money and reduce energy usage and greenhouse gas emissions by the utility. The financing, which was for six projects, was administered by the California State Water Resources Control Board’s Clean Water State Revolving Fund (CWSRF) program and qualified for the CWSRF Green Project Reserve.

Four of the projects were for the purchase and modification of an existing reservoir and the installation of approximately 30,200 linear feet of pipeline that will transport recycled water to customers and recharge groundwater, resulting in the conservation of over 1 million gallons of water per day¹. An energy efficiency project involved the replacement of a belt press system that supports the dewatering system at one of IEUA’s regional water recycling plants, thereby reducing the percentage of water in filter cake by an additional 5 to 10 percent, which reduces the weight of processed sludge and decreases energy costs and carbon dioxide emissions associated with the disposal of processed sludge. Finally, a green infrastructure project will improve the water quality of the Chino Creek Watershed and improve wildlife habitat by restoring the degraded riparian ecosystem.

Water and energy use in California are significant issues with water supplies becoming increasingly stressed as demand continues to grow while the state tries to recover from a three-year drought that left water reserves severely depleted and many areas coping with water allotment cuts. Looking forward, the state faces ongoing water shortages for millions of acres of agriculture and 25 million Californians, and climate change is expected to further exacerbate water shortages in the arid Southwest, including California.

Because water uncertainties will continue to plague California, the challenge for water and wastewater utilities is to utilize water as efficiently as possible. IEUA is responding aggressively to this challenge by integrating sustainable planning into its operations. It operates five water-recycling facilities for 880,000 residents and has spent the last six years implementing a comprehensive strategy to reduce energy use and expand water recycling capacity.

About one-third of the water distributed by IEUA is imported from the Metropolitan Water District of Southern California, which requires approximately six times the energy to supply IEUA customers compared to a local groundwater well. Electricity is the second biggest cost in IEUA’s operating budget. In FY 2011 and 2012, IEUA allocated \$5.4 million of its \$44.2 million operating budget for electricity costs. (Available at http://www.ieua.org/news_reports/docs/2011/TYCIP/FY2011_12O&MVol_1.pdf) Additionally, the service area of IEUA is expected to grow by 50 percent over the next 20 years to about 1.3 million people, further increasing water supply pressures and energy needs.

¹ Represents the portion of the project funded with CWSRF ARRA funds.

As a result, IEUA is increasing investments in local supplies by adopting a strategy that capitalizes on conservation, water reuse, and stormwater capture in local groundwater aquifers. In the past five years, IEUA has invested more than \$350 million in new water infrastructure, including a 75-mile pipeline distribution system to deliver recycled water from four existing facilities to industries, parks, schools, and golf courses, among other customers. IEUA plans to increase its water reuse to more than 50 million gallons per day by 2012. This water reuse will offset imported water, resulting in energy savings of approximately 7,500 kWh per million gallons of water, which will ultimately save consumers 10 to 20 percent on their monthly water bills. The ARRA-funded CWSRF projects are a key component of this effort.

IEUA is determined to become energy self-sufficient to reduce long-term costs of providing service to its customers and mitigate the causes and impacts of climate change. IEUA intends to be off the electric grid by 2020 through energy conservation measures and significant utilization of renewable energy and new generation technology. For instance, IEUA has a LEED Platinum Administrative Building complex that consumes a mere 15 percent of the energy of a traditional building without sustainable energy management. IEUA also conducts energy audits of all its facilities, including wastewater treatment facilities, and has expanded renewable energy usage by installing solar panels, using biogas, and replacing older vehicles with hybrid and electric vehicles. It also composts all of the biosolids its service area produces every year (nearly 75,000 tons) and sells the product to city parks, golf courses, and landscapers as fertilizer. These sustainable energy management practices reduce air pollution and CO₂ emissions, thereby mitigating climate change.

Extensive and ongoing infrastructure upgrades by IEUA that are funded in part by ARRA and non-ARRA CWSRF program funds will position IEUA as a model of sustainability for other water and wastewater utilities in California and beyond. Utilities that are energy self-sufficient and conserve and maximize limited water resources will be better positioned to cope with growing demand and climate uncertainties. Ultimately, these improvements are not just beneficial for the environment; they are essential for the provision of affordable and effective wastewater services for communities over the long term.

For more information please contact the California Clean Water State Revolving Fund Program
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