

# Planning for energy neutrality at an isolated water reclamation plant

Learn how DHI supports the funding for high-efficiency process equipment and energy-saving operational strategies at Lancaster reclamation plant

© Shutterstock / Kekyalaynen



Improved effluent quality



Energy neutrality



OpEx reduction

## Challenge

LACSD's Lancaster WRP provides safe and sustainable municipal sewage treatment for an isolated population in an extremely arid environment. The plant is challenged to reuse 100% of treated water and remove nutrients. Capital investment shortages resulted in a partially upgraded facility. Therefore, novel tactics were required to fund improvements for energy neutrality, nutrient removal, process operability and water reclamation.

## Solution

Through the use of DHI's simulation software, WEST, changes in the current operation were evaluated to identify optimal control strategies for operating the WRP. Real-time aeration control, sidestream centrate treatment, enhanced carbon harvesting and on-site energy recovery from biogas in specialised engines, demonstrated the potential for significant improvements in terms of energy neutrality and operational costs. The benefits from the proposed actions were quantified to support the application for energy service company (ESCO) funding opportunities.

### Solution highlights

- Real-time aeration control
- Biogas optimisation & CHP recovery
- Carbon harvesting & centrate treatment



**LOS ANGELES COUNTY  
SANITATION DISTRICTS**  
*Converting Waste Into Resources*

The Los Angeles County Sanitation Districts (LACSD) is a public agency created under state law to manage wastewater and solid waste on a regional scale. The agency consists of 24 independent special districts that serve about 5.6 million people in Los Angeles County. Moreover, LACSD manages 1,400 miles of sewers, 49 active pumping plants, and 11 wastewater treatment and reclamation plants that produce 120 megawatts of electricity and 165 MGD of recycled water used for irrigation and other beneficial reuse applications.



Contact: [mike@dhigroup.com](mailto:mike@dhigroup.com)



Visit: [www.dhigroup.com](http://www.dhigroup.com)



More: [link to online story](#)