

Industrial Assessment Centers

Identifying Energy Savings in Water and Wastewater Plants

Since 1976, the Industrial Assessment Centers (IACs), administered by the U.S. Department of Energy, have supported small and medium-sized American manufacturers, to reduce energy use and increase their productivity and competitiveness. DOE is now offering up to 50 assessments per year to industrial or municipal water and wastewater plants. The 24 IACs, located at premier engineering universities around the country (see below), send faculty and engineering students to local plants to provide no-cost assessments of energy use, process performance, and waste and water flows. Under the direction of experienced professors, IAC engineering students visit plants to analyze energy bills and various energy and water systems including pumps, motors, compressed air, lighting, process heat, steam, and CHP. The IACs then follow up with written energy-saving and productivity improvement recommendations, with estimates of related costs and payback periods.

ADVANCED MANUFACTURING OFFICE
TECHNICAL ASSISTANCE ACTIVITIES
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IAC Water Experience

- 30 plants have received assessments from their local IAC, with plant sizes ranging from 1.6 MGD – 115 MGD.
- Annual utility bills range from \$107,361 to \$5,009,337.
- Per plant potential cost savings for increasing energy efficiency, reducing waste, and improving productivity, averages \$232,000.
- Identified savings average \$31,000 per MGD of flow.

Assessment Sign Up

If your facility is a water or wastewater plant meeting these general criteria:

- Water treatment plant >5 MGD
- Wastewater treatment plant >2 MGD
- Annual energy bills between \$250,000 and \$2.5 million

Then contact your closest IAC to see if you are eligible for a no-cost assessment.

For additional IAC information

DOE's IAC Program Lead

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U.S. DEPARTMENT OF
ENERGY
Energy Efficiency &
Renewable Energy

The IACs offer expertise and access to information and resources for energy efficiency, energy recovery, and energy management. For IAC contact information or to determine if you are eligible for an assessment, see the following link:

<http://www.energy.gov/eere/amo/locations-industrial-assessment-centers>

What Water Quality Professionals are Saying

“The IAC program and the University of Delaware helped us identify significant opportunities for energy savings. We’re now working with an ESCO on implementing several of the recommended measures. This helps us control our operating costs and manage waste treatment rates and meet our Sustainability management System goal of becoming a zero net energy facility.”



*Jim Newton, Plant Engineering Manager
Kent County Waste Treatment Plant
Dover DE*

“We truly enjoyed having the OSU (Oregon State University) Energy Assessment Team here to evaluate our various equipment and processes for their energy consumption and have benefited from their advice. This is a great program which is free of charge and available to any of us in the industry who are looking to become more energy efficient. The individuals were professional, knowledgeable and offered unexpected insights regarding our potential energy savings. They helped us to begin looking at the facility in different ways to ensure we are operating as energy efficiently as possible. We still have some hurdles to get over, but we are well on our way.”

*Laurie Pierce
Operations and Facilities Director
Olympia WA*



“The IAC programs at California State Universities, San Diego and San Francisco, have partnered with EPA Region 9 to conduct 19 energy audits (with more on the way) at wastewater treatment facilities in CA, HI, AZ, and NV since 2011. The audits identified 125 energy conservation opportunities, totaling approximately \$7 million in annual savings and a reduction of 70 million kWh. All the facilities found their audits to be extremely beneficial, and nearly half of the recommendations have been implemented. EPA Region 9 is excited to continue our partnership with these IACs to deliver high quality energy audits. Thanks for all your help.”

*Eric Byous
EPA Region IX
Water Division
San Francisco, CA*



EPA Resources

OWM has developed and collected a wealth of tools and information to help water sector utilities manage water for optimum water and energy efficiency, determine energy usage, cut energy usage and costs, and explore renewable energy options.

- *Energy Use Assessment Tools* can be used to help smaller utilities assess their energy usage and identify ways to improve, and conduct utility bill and equipment analyses.
- The *Energy Management Handbook for Wastewater and Water Utilities* helps utilities analyze their current energy usage, uses energy audits to identify opportunities to improve their efficiency, and measures the effectiveness of energy projects.
- EPA’s *Energy Conservation Measures Report* describes cost-effective technologies for improving energy efficiency, along with selected case studies.

EPA resources available at:
<http://water.epa.gov/infrastructure/sustain/waterefficiency.cfm>

For additional EPA information

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IACs Collaborate with DOE and EPA to Focus on Water

One of the unique attributes of the IAC program is that they work with other organizations and programs within DOE:

- **Better Plants Program (BPP)** – IACs work with Better Plants partners to improve the energy efficiency and productivity of their smaller facilities, and now on a pilot basis, assessments of water and wastewater plants.
- **Superior Energy Performance (SEP)** – Information obtained from IAC assessments can be used to support strategic energy management, or begin the process of achieving Superior Energy Performance in water and wastewater plants, now available on a pilot basis.
- **Combined Heat and Power Technical Assistance Partnerships (CHP TAPs)** – IACs routinely collaborate with the CHP TAPs by providing referrals and by conducting preliminary screening analyses to identify potential opportunities for CHP implementation in wastewater plants.

DOE is also working closely with EPA’s Office of Wastewater Management (OWM) to help wastewater utilities become more energy efficient.