

Reduce Costs with Energy Efficiency in Water and Wastewater Treatment Plants

The Industrial Assessment Center (IAC) at the University of Massachusetts Amherst offers free, in-depth energy assessments for New England manufacturing facilities and water/wastewater treatment plants, providing specific recommendations to reduce energy use and operating costs. Supported by the U.S. Department of Energy, our service is impartial and comes with no obligation.

Assessments are conducted by a team of engineering graduate students, under the leadership of Mechanical Engineering Professor Beka Kosanovic, who has three decades of experience in industrial energy efficiency. Since 1984, our center has completed more than 800 assessments, while training dozens of engineers for careers in clean energy.

First we compile and analyze the facility's utility bills to determine rates and baseline use. Then we make a site visit, in which we talk with staff about operations and areas of interest or concern, tour the facility to review equipment and processes, and use our metering and diagnostic tools to measure performance of key equipment. We consider all forms of energy used on site, including electricity and fuels such as natural gas, oil and propane.

Within 60 days, we provide a report detailing our findings and cost-effective recommendations to reduce the facility's energy consumption and operating costs. The report includes detailed analysis of potential resource and cost savings and emissions reductions, along with estimates for implementation costs and simple payback periods. We can then work with your local utility or energy efficiency program to help obtain incentives or rebates toward implementation of our recommendations.

Eligibility

Your facility may be eligible for a no-cost assessment if it meets these criteria:

- A water or wastewater treatment plant (public or privately owned) or a manufacturer within Standard Industrial Codes (SIC) 20-39
- Annual energy bills between \$100,000 and \$2.5 million

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Comprehensive Assessments

Recommendations often include:

- Install or optimize use of automated controls
- Improve pumping system operation
- Upgrade to new, efficient equipment
- Add insulation
- Adjust scheduling to reduce demand charges
- Convert wastewater treatment plants to use fine bubble aeration
- Install a combined heat and power system with an anaerobic digester to generate heat and electricity from wastewater

Cost Savings

On average, our recommendations are projected to reduce annual energy costs by 12%