



WASTEWATER POND EFFICIENCY ALTURA, MINNESOTA

Challenge

Altura is a small town of 491 people in Southeastern Minnesota. The town has an aerated pond system to treat wastewater. The wastewater plant manager is also the plant's only operator and also serves as the town's mechanic, first responder, and general problem solver. He suspected there was opportunity to save energy by removing aerators, but he didn't have the time to invest in figuring out the details. Instead, he contacted Clean Energy Resource Teams (CERTs) for help. CERTs had heard about MnTAPs work with wastewater treatment plants, and reached out on Altura's behalf to request an energy assessment.

As a result of that call, the City of Altura has the potential to save \$14,000 per year in energy.

Results

Save Energy
173,000 kWh / yr

Save Money
\$14,000/yr

Match O₂
Supply and Demand

Take Six
Aerators Offline

MINNESOTA TECHNICAL ASSISTANCE PROGRAM

612-624-1300

MnTAP.UMN.EDU

Contact us for more
information!

Approach

Staff from Altura, CERTs, and MnTAP met for an on-site assessment to identify the opportunity for energy savings. The wastewater pond aeration was designed to handle large industrial loads from a large turkey plant. When that plant left town, the aerators stayed. These aerators use energy, which places an unnecessary economic burden on the town. At the time of the assessment, Altura was running 10 aerators for treatment. After digging through boxes of old files, the critical design information was pieced together. By comparing the current BOD loading of the plant to the design specifications, the solution became clear.

Results

The plant is expected to adequately treat wastewater with only four of the ten aerators online. This change will save Altura 173,000 kWh, or roughly \$14,000 per year in energy.

The aerators are being removed from the pond system slowly to ensure that the change has no adverse effects on the effluent quality of the wastewater. As of this publication, two aerators have been removed from service, for approximately \$4,680 in annual energy savings.



McGhiever, Whitewater River, CC3.0

Getting Started with Energy Efficiency

According to [Energy Best Practices Guide: Water & Wastewater Industry](#), average pond benchmark scores for Wisconsin are 7,288 kWh / MG and 4,232 kWh / 1000 lb BOD; how do your ponds compare?

For more information on wastewater treatment efficiency, please give us a call at (612) 624-1300, email mntap@umn.edu, or visit our website: <http://mntap.umn.edu/POTW/wwtp.html>

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