

## Kenosha WWTP: Energy Optimized Resource

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### Kenosha WWTP: Energy Optimized Resource Recovery Donohue & Associates Inc.

Client: Centrisys Corp.  
 Owner: Kenosha Water Utility  
 Category: Energy  
 Location: Kenosha, WI

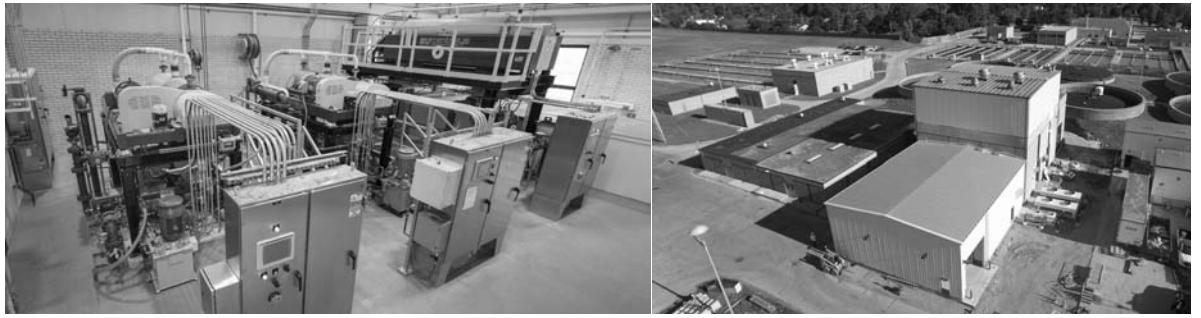
Kenosha set out a progressive goal of a more sustainable wastewater treatment plant. The current plant handles more than 22 million gallons of wastewater a day and the solids left over from the process had to be loaded onto trucks and hauled away to a separate landfill. Additionally, the electricity to run the plant increased costs because the facility did not produce its own energy.

Donohue & Associates came in with a plan to address all of these issues. The designs used technologies that had not yet been used in America - the PONDUS system that was installed is one of a handful in use in the world and delivered a 30% increase in biogas production because of its superior methods in breaking down waste solids. Alongside this system, a centrifuge was installed that significantly reduced the amount of water needed to use the system. This allowed the facility to cut the number of digesters in half, saving money on operational maintenance costs.

Because of the improvements, biosolids that previously had to be transferred to a landfill were reclassified and the nutrients were reused in a beneficial way. The biosolids can now be used for compost projects or as fertilizer at local farms. The increase in biogas production has allowed the facility to use that energy to power the plant, cutting down on costs. Overall, the new plant is expected to pay for itself in eight years and save \$750,000 a year.

Awards judge Anna Varney, PE, said "This design is a great example of integrating innovative technologies into existing infrastructure. The main heat energy supply comes from waste heat, biogas is converted into electricity and biosolids are Class A to be used as fertilizer instead of Class B which was previously hauled to a landfill."

The project was focused on a solution that was both practical and sustainable. Donohue delivered by using cutting-edge technology to meet environmental goals and reusing waste materials to realize extreme cost savings.



### Location

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[Google Map](#)

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