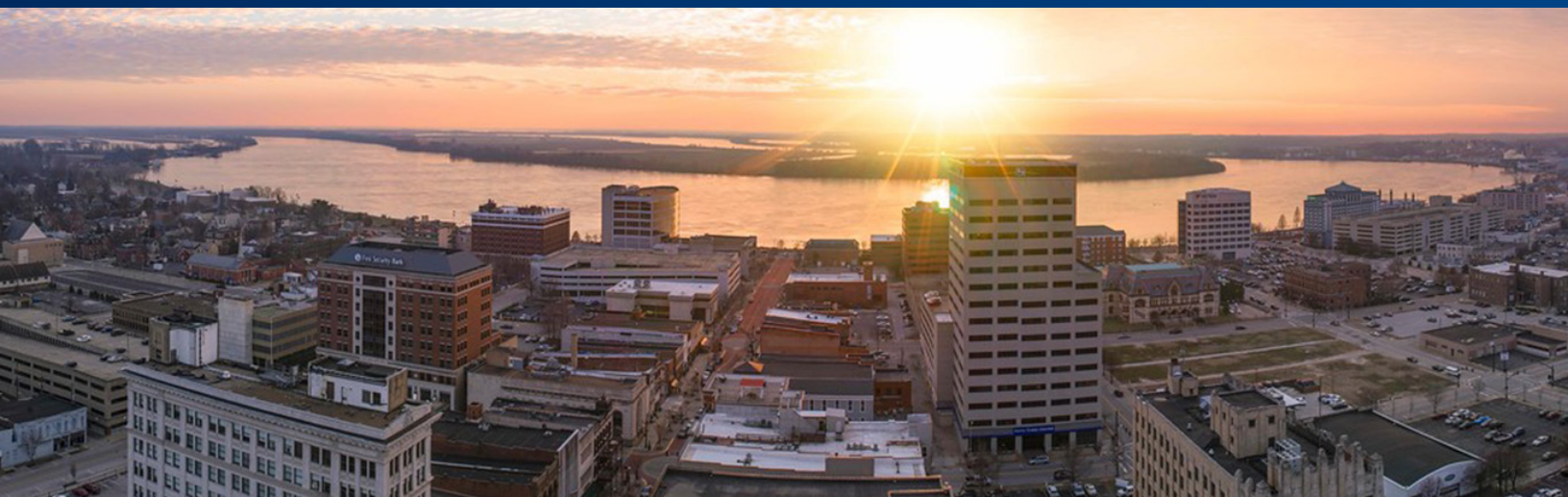


City of Evansville, IN

Modernizing city water infrastructure without raising taxes



Nestled along the banks of the Ohio river in southwest Indiana, the city of Evansville has undergone a decade-long transformation to modernize its infrastructure to benefit its 117,000 citizens.

In 2012, the city's leaders embarked on projects to address aged water infrastructure and improve overall sustainability through ambitious community-wide upgrades. The challenge was to do so without raising taxes or fees, especially since much of the work involved making behind-the-scenes improvements to systems that most citizens never see and to services many may take for granted.

"Mayors want a viable water and sewer utility, right? But it's not very sexy," said

Lloyd Winnecke, mayor of the city of Evansville. "No mayor wants to raise water and sewer rates."

Energy Performance Contract Funds Critical Water Infrastructure Updates

Working with their ongoing strategic advisor Johnson Controls, city leaders identified a solution: an energy savings performance contract. Through this funding mechanism, the entirety of the

\$39M project is funded by guaranteed energy and operational savings generated over a set period of time, minimizing the impact on taxpayers.

With financing secured, Johnson Controls got to work implementing infrastructure updates throughout the city. To offset the tremendous amount of electricity required to operate the city's wastewater treatment plant, Johnson Controls installed energy-efficient lighting, HVAC, controls and power-factor correction within the

Case study



“To say it’s a win-win situation might be trite, but nothing could be more accurate.”

- Lloyd Winnecke, mayor of the city of Evansville

facility. To reduce solid waste, experts implemented valve automation and a solid waste centrifuge as well. This centrifuge was a vital component of the city’s initiative to generate power from local restaurants’ discarded kitchen fats, oils and grease (FOG). Once delivered to the treatment plant, these materials are processed in a methane biogas system that generates power.

The project’s updates extended throughout the city as well. The Johnson Controls team implemented a new automated water metering system which wirelessly gathers and analyzes real-time data from 64,000 meters and 10 wireless towers. Leveraging Automated Metering Infrastructure (AMI) and a Smart Meter app, the system increases meter-reading accuracy and efficiency to more precisely bill customers and capture significant revenue that might otherwise have been lost. The system can also flag unusual spikes in water or sewer leakage which

may signal a leak, allowing city workers to proactively intervene.

Serving Citizens, Minimizing Costs and Generating Clean Power

The project generates \$3.1M in guaranteed annual energy and operational energy savings, for a total payback of just 20 years. Within its first five years, the city of Evansville generated \$26M in cost savings and reduced energy usage by 3.4M kWh over the same period. Energy consumption at the wastewater plant was reduced by 30% while solid waste experienced a 20% reduction. The FOG initiative itself continually generates 460kW of clean power, enough to take the entire plant completely off the electric grid.

The integration of AMI technology has streamlined water metering and billing processes, enabling city workers to reassign seven meter readers to other priority tasks and take six department

vehicles off the road. As a result, the annual water meter budget has been reduced by \$300,000.

“To say it’s a win-win situation might be trite,” said Winnecke, “but nothing could be more accurate.”

Johnson Controls continues to work with the city to measure and verify the technologies implemented through this partnership, ensuring Evansville remains on target with its efficiency goals. By modernizing some of its most critical water infrastructure, the city of Evansville has reduced its operating and maintenance costs, maximized its sustainability and improved services to its citizens – all without raising taxes or fees.

To learn more about how Johnson Controls supports vibrant communities, visit

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