

## A SYSTEM FOR THE FUTURE

When Akron Energy Systems assumed operations of the City of Akron's community energy system in 2010, it was determined that a plan to ensure its future viability was needed.

In collaboration with leaders from the city, Akron Children's Hospital, and Cleveland Clinic Akron General, Akron Energy Systems embarked on a process to create a community energy system for the future.

**The two hospitals were critical to the process** as they were the system's two largest customers. Without their long-term commitment to community energy, the future of the system would have been in peril. Both entities stepped up to offer invaluable resources in time and talent as Akron Energy Systems worked with the city to develop a comprehensive strategy. The results of that work included construction of a new district energy production plant and enhancements to the system's delivery lines that carry steam and chilled water to customer buildings for heating and cooling.



Boilers produce  
**450,000** pounds  
of steam per hour to  
provide heat



**30-million**  
gallons of water  
is recycled per year



Energy use reduced  
by **45%**



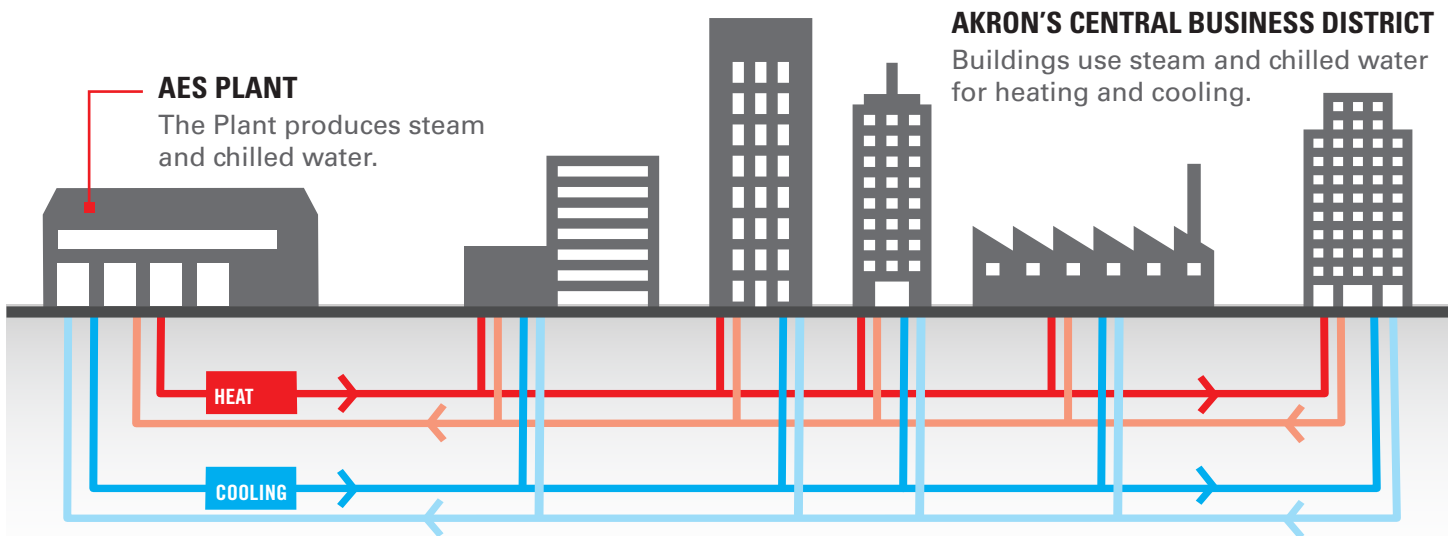
Carbon footprint  
reduced by more than  
**100,000**  
tons per year



The \$24.5 million project was financed by the City of Akron but will pay for itself through the plant's revenue, as well as operational efficiencies the project will bring.

## PROJECT HIGHLIGHTS

- ▶ Installation of steam-generation equipment with three new boilers
- ▶ Water treatment equipment to accommodate expansion and ensure longevity of new equipment
- ▶ Incorporation of renewable energy and water-conservation technology
- ▶ Service and infrastructure improvements for hospitals
- ▶ New administration building
- ▶ Demolition of the existing production plant



### DISTRIBUTION NETWORK

Steam and chilled water are distributed to buildings and condensate is returned to the plant through underground insulated pipes.



Three natural gas-fired boilers capable of generating 450,000 lbs. of steam each hour converts water to pressurized steam for direct heating through a building's heat exchangers. The steam can also be used for domestic hot water and absorption cooling.



Chillers, cooling towers, and variable speed driven fans chill water to 45° before supply pumps deliver it to buildings for air-conditioning at a rate of 3,600 gallons per minute. Once the chilled water has been used it is returned to the plant and reused.



**AKRON  
ENERGY  
SYSTEMS**

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