The City of Arcola demonstrates that sustainability at the municipal level means smarter governance. With a strong sense of financial and environmental stewardship, the city has achieved significant savings through energy efficiency and renewable energy projects, which earned it an Illinois Governor’s Sustainability Award in 2014.

The City of Arcola embraced energy efficiency in their city facilities because they felt responsible for utilizing taxpayer dollars efficiently and effectively. Bill Wagoner, city administrator, said, “If solutions were available that could help save the city and its residents more dollars, then why not invest in these technologies and increase efficiency?”

The City of Arcola did just that, working with Tick Tock Energy to continually integrate electrical improvements that increased efficiency and reduced overall electrical consumption over the past seven years. In 2008, the city began retrofitting old incandescent and T12 lighting to CFLs and T8s in its fire department and community center, saving about $8,500 per year. A major energy efficiency project the city undertook was upgrading the wastewater treatment plant (WWTP) aeration blowers. These blowers were upgraded to a HIS HT-30 turbo blower which reduced energy consumption by 97,000 kWh, saving the city over $9,800 per year.

Clearly, the investments the city has made in energy efficiency has proven to pay off for taxpayers and the environment.

“It made a lot of dollars and sense to go after these projects.”

Bill Wagoner, City Administrator, City of Arcola

KEY STATISTICS

- 128 mtCO₂e of emissions avoided per year
- 2,900 residents
- $25,554 annual savings for taxpayers

ABOUT THE CITY OF ARCOLA

Established: 1855
Location: 114 N. Locust
# of employees: 16
Population: 2,900
NAICS code: 92111001 - same as previous
Website: www.arcolaillinois.org

ABOUT THE ILLINOIS GOVERNOR’S SUSTAINABILITY AWARD

Since 1987, ISTC has presented the Illinois Governor’s Sustainability Awards to organizations in Illinois that have demonstrated a commitment to sustaining our environmental and economic health.

Any Illinois public or private organization is eligible to apply.

Find out more at: istc.illinois.edu/govsawards or email istc-info@illinois.edu
City of Arcola

PLANNING FOR SUCCESS

A breakdown of strategies and technologies that help the City of Arcola pursue social, environmental, and economic stewardship.

People
✓ Environmental education
✓ Knowledge transfer with local industry
✓ Responsible governance

Planet
✓ Renewable energy promotes cleaner air
✓ Efficiency equals less energy consumed
✓ Continuous improvement

Prosperity
✓ Efficient use of tax dollars
✓ Better long-term energy security
✓ Utilizing grants and rebates

ABOUT ISTC

The Illinois Sustainable Technology Center is a part of the Prairie Research Institute at the University of Illinois at Urbana-Champaign.

ISTC’s mission is to encourage and assist citizens, businesses, and government agencies to prevent pollution, conserve natural resources, and reduce waste to protect human health and the environment of Illinois and beyond.

Visit our website at: istc.illinois.edu

GENERATING THEIR OWN ENERGY

While the City of Arcola was aggressively implementing projects to reduce energy and maintenance costs via energy-efficiency, they were also interested in looking at ways to produce clean, renewable energy through the use of wind and solar power.

At the time the aeration blower project at the wastewater treatment plant (WWTP) was moving forward, an initial site feasibility review was performed by Tick Tock Energy for a wind energy project. The study identified that installation of a 40 kW wind turbine on a 120-foot tower was a viable option and provided good potential to generate a portion of the WWTP’s annual electrical demand. The wind study determined that there was significant enough wind to provide a strong financial return while helping to reduce the carbon footprint for the plant.

Project construction cost, potential grants, energy savings, and the overall investment outlook for the wind turbine installation were analyzed before the project was approved. The City of Arcola received $150,000 in grant funds and rebates from the Illinois Clean Energy Foundation and Illinois Department of Commerce and Economic Opportunity to help fund the $203,000 equipment and installation costs. The wind turbine produces enough energy to reduce the WWTP’s annual electric bill by 25 to 35 percent, depending on annual wind availability.

The next step in their renewable energy pursuit was to survey each city building to identify the optimal application for a solar PV array. City Hall was chosen as the best option considering their allotted budget. A 10.08 kW (DC) solar array consisting of 42 Sharp 240 Watt solar modules and an equal number of Enphase micro-inverters has been installed on the roof of the building. The array is able to generate approximately 13,000 kWh per year, which covers about 17 percent of City Hall’s annual electricity consumption.

Visit our website at: istc.illinois.edu/govsawards