

One Winner's Story

Tiny Galena Seizes a Place in the Sun with Sustainable Planning, Stewardship

A mining boomtown and a bustling Mississippi River port, Galena, Illinois, was a jewel of the opening frontier nearly 200 years ago.

The river now flows miles away and the last hey-days of its lead mines were during the Civil War. Still Galena has managed to stay on top by maximizing its resources, and its opportunities.

The far-sighted thinking of its leadership has made the little city (pop. 3,429) a stand-out in the ranks of sustainable communities and a winner of a 2014 Illinois Governor's Sustainability Award.

Now a destination location touted by heavyweight travel guides like Fodor's and Conde Nast, Galena today leans heavily on that early tradition — a tradition that has landed its nearly every structure on the National Register of Historic Places.

According to City Manager Mark Moran, it was not for recognition that Galena built one of the nation's largest municipal solar arrays in 2012, but was for sustainability. Electricity costs had increased 78 percent over five years and the city's council was open to new ways to stop the hemorrhaging. They had exhausted the 'low hanging fruit' including variable speed motors and scheduling wastewater treatment plant (WWTP) runs during off-peak hours.

Andy Lewis, the city engineer, had a personal and professional interest in solar power and pursued professional certification in the field. He and Moran began researching the technology with the help of a Dubuque consultant.

The result was seven arrays of 1,444 solar panels (368 kW) installed at the WWTP providing nearly half of the power consumed by the plant, saving the city about \$50,000 per year. The estimated life of the

system is 40 years with a 25-year warranty. Falling prices of photovoltaic (PV) panels during the bid process permitted expansion of the system design and a decrease in the project payoff projection from the maximum of 12 years to closer to 10 years, Moran said.

Success with these and other sustainability initiatives in Galena was a matter of maximizing any advantage, he added. "Our economy is based on our natural resources," he said. "We are very focused on trying to preserve our natural resources and getting the highest return on investment."

Galena is almost unique among Illinois cities for its hills and valleys, unscored by glaciation. The city is literally green with vegetation and bounding with topography. "We considered wind power but their appearance did not really fit in our situation," Moran explained. The geography also made solar energy the right choice.

Another advantage is the city's enviable sales tax flow, fed by its healthy tourist trade. Cash matches have allowed Galena to win successful technology grants, particularly from the Illinois Clean Energy Community Foundation (ICEC) which contributed \$800,000 to the solar power project.

"The reality for us, being a small town, is that we have just been very aggressive with grant writing, which has helped us achieve much more than we could have otherwise," Moran said. "A lot of communities struggle to get matching funds," Lewis added. "We are in an enviable situation because our sales tax makes matching funds available."

Strong partnerships, such as that with the local community-owned utility Jo-Carroll Energy, have also helped the city. Teamwork helped optimize the



2014 Illinois Governor's Sustainability Award Winner

CITY OF GALENA

Completed or Underway

- LED retrofit of 270 street lights
- LED retrofit of traffic light
- High-efficiency retrofit of restored building as new City Hall/Police Headquarters
- Electric vehicle charging station for visitor use
- Passive solar lighting
- White roof coatings
- Reusable shopping bag campaign
- Public logo design contest
- Public/private recycling partnerships for electronics, batteries, medications, CF bulbs

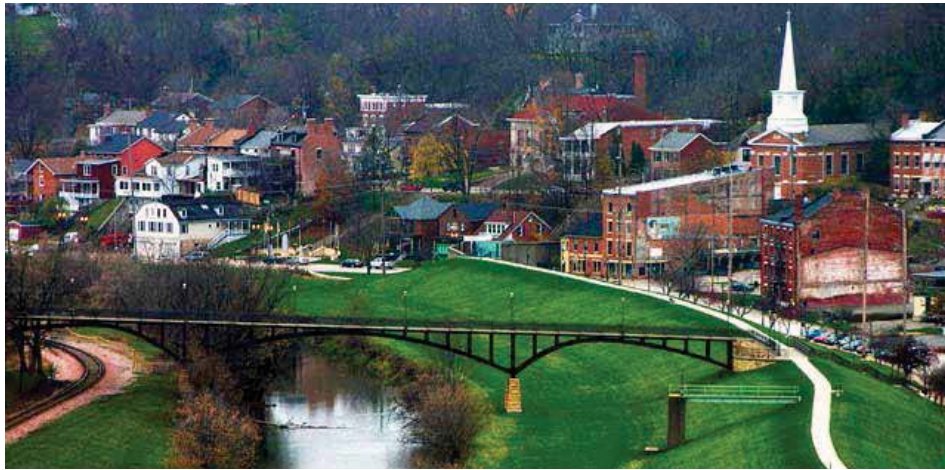
Future Plans

- Install solar panels on roof of new City Hall
- LED retrofit of 400 street lights
- Investigate the sale of Solar Renewable Energy Credits

NAMESAKE

Galena is the purest ore of lead – a highly poisonous metal – which is safe to handle when bound in this mineral's crystal structure. Galena was the first lead mining settlement around Dubuque which experienced a 'lead rush' in the 1820s, until the 'gold rush' of 1849 provoked a mass migration of miners to California. Lead mining activity stirred again with increased demand for lead during the Civil War. Today, most lead is recovered from recycled car batteries or mined as a fraction of metals obtained from gold, silver, zinc, and copper mines in western states.





planning and installation of the energy farm and today the city earns \$300-\$1,300 per month by uploading excess power to the grid.

Current and planned retrofits of LED lighting in traffic signals and street lights have also been worked out in negotiations between the city and the utility.

The biggest advantage for Galena has been progressive leadership which is willing to take a long view of progress. “We will be in business forever, so we don’t have to make short-term decisions for profits,” said Moran.

“We’ve learned a lot in the last 10 years, in tough economic times, about sustainability and how retrofitting and restoration of older buildings fits in to it.

“I think we also feel we are a real live classroom to bring these ideas into the mainstream for other communities, businesses and schools,” he added. As technology costs decrease (the cost per watt for solar panels dropped precipitously in the three years since Galena made its cost projections), those advantages are likely to be available to more communities, he said.

Meanwhile in November, 100 miles to the east, the City of Rochelle, also with the help of an ICEC grant, completed its own 312 kW solar PV system at its wastewater treatment facility.

“Our whole economy and the growth of our community have been almost completely based on the natural resources we have inherited,” said Moran. “To be able to blend sustainability with that is kind of a unique approach but we think it will be effective in the long term — and underneath it all we think it is the right thing to do.”

Driving Sustainability in the Workplace

Illinois Green Office Challenge Helps Office Building Teams Go Green

With the competition wrapping up in April 2015, the Illinois Green Office Challenge was shaping up as a close race over the winter.



Thirty-one office building teams representing the Champaign-Urbana, Bloomington-Normal and Peoria areas are enrolled in the friendly competition to conserve energy and water, reduce waste, and cut greenhouse emissions.

Early leaders at the end of the year were Peoria Charter Coach’s Plaza; the U.S. Army Corps of Engineers, Construction Engineering and Research Laboratory in Champaign; and Champaign-Urbana Mass Transit District’s Administration and Operations Building.

The program is a collaboration of the Illinois Sustainable Technology Center (ISTC) and the Delta Institute, which helped make the Chicago Green Office Challenge a success. This effort is to extend the challenge’s benefits to the three central Illinois cities, and after that the entire state in future years.

By participating in the Illinois Green Office Challenge, individual offices or entire buildings earn points for their organizations while helping make Illinois more competitive, livable and sustainable. “It is a friendly competition, but with



real economic impacts,” said Bart Bartels, technical assistance engineer at ISTC, which is overseeing the program. “It can galvanize your office team to spot efficiencies and cut costs while projecting environmental responsibility to your customers and clients.”

The winners will be announced Monday, June 11, 2015, at ISTC.