



Jim Pullen  
General Manager  
Eagle Point Solar  
Dubuque, IA 52001  
563-582-4044



## ❖ Historic community in Northwest Illinois

*Nearly 85% of buildings listed on the National Register of Historic Places  
Almost 1,000,000 visitors annually*

## ❖ Population of approximately 3,500

## ❖ Governed by Mayor & City Council structure

## ❖ Budget of approximately \$10million

**Unique yet Common**

❖ On-going, “unofficial” city wide, sustainability initiative

❖ “My Green Galena”

*“Organizing and managing the city to create a healthy environment, vigorous economy and vibrant community”*

#### Accomplishments

- ✓ Preservation of natural area
- ✓ Retrofits of all traffic lights
- ✓ Retrofits all lights at police and fire facilities
- ✓ Pay-as-you-go curbside garbage collection with unlimited recycling
- ✓ Diverse recycling for a range of materials
- ✓ Paperless City Council Meetings
- ✓ “Dark Skies” ordinance to reduce light pollution

## Sustainability:

Meeting the current environmental, social, and economic needs of our community without compromising the ability of future generations to meet these needs.

- ❖ Identify large consumers of electricity
  - Waste Water Treatment Plant is the largest (12% of City's load)*
- ❖ Begin with Energy Efficiency Projects
  - Installed SCADA system to measure and control energy usage*
  - Installed variable-frequency drives on pumps*
  - LED lighting retrofit*
- ❖ Total annual savings - \$3,500
  - Not enough of an impact*
- ❖ Next step is self-generation



- ❖ Determined solar was an option
- ❖ Investigated solar sites and identified the WWTP was a suitable solar site.
  - ✓ *1.5 acres of available land*
  - ✓ *Flat*
  - ✓ *Unobstructed southern facing exposure*
  - ✓ *Power could be consumed on-site*

## ❖ Preliminary Design

- ✓ *368kW-dc (approximately 484,000kWh's annually)*
- ✓ *1444 Monocrystalline, 225 watt Solarworld modules*
- ✓ *(3) - 100kW central inverters*
- ✓ *180' Due South orientation*
- ✓ *30' fixed position*
- ✓ *Aluminum racking with concrete foundation piers*
- ✓ *Entire site is fenced for security*
- ✓ *Washed aggregate installed under the array to reduce maintenance*
- ✓ *Suntrol web based monitoring system*

- ❖ Applied and received Illinois Clean Energy Community Foundation grant

*Project Cost*

✓ \$1,328,282

*Funding*

✓ \$800,969 Grant

✓ \$330,000 Bonds

✓ \$197,313 Cash

*(Potential SREC value this fall)*

**Save nearly \$60,000 annually!**



- ❖ Design & Funding vehicle completed - Issued RFP
  - ✓ Received 9 responses
  - ✓ Awarded the project to Eagle Point Solar
  - ✓ Value based decision with company that maximized the output within the given space

## ❖ Engaged with all affected utilities

### ✓ *Jo-Carroll Energy*

*Impact Study*

*Reviewed Design*

*Managing interconnection agreement*

*Liaison between city and Dairyland Power to establish the PPA*

### ✓ *Dairyland Power*

*Agreed to a Power Purchase Agreement to buy daytime overproduction at \$.041/kWh and sell back to city at night for \$.031/kWh*

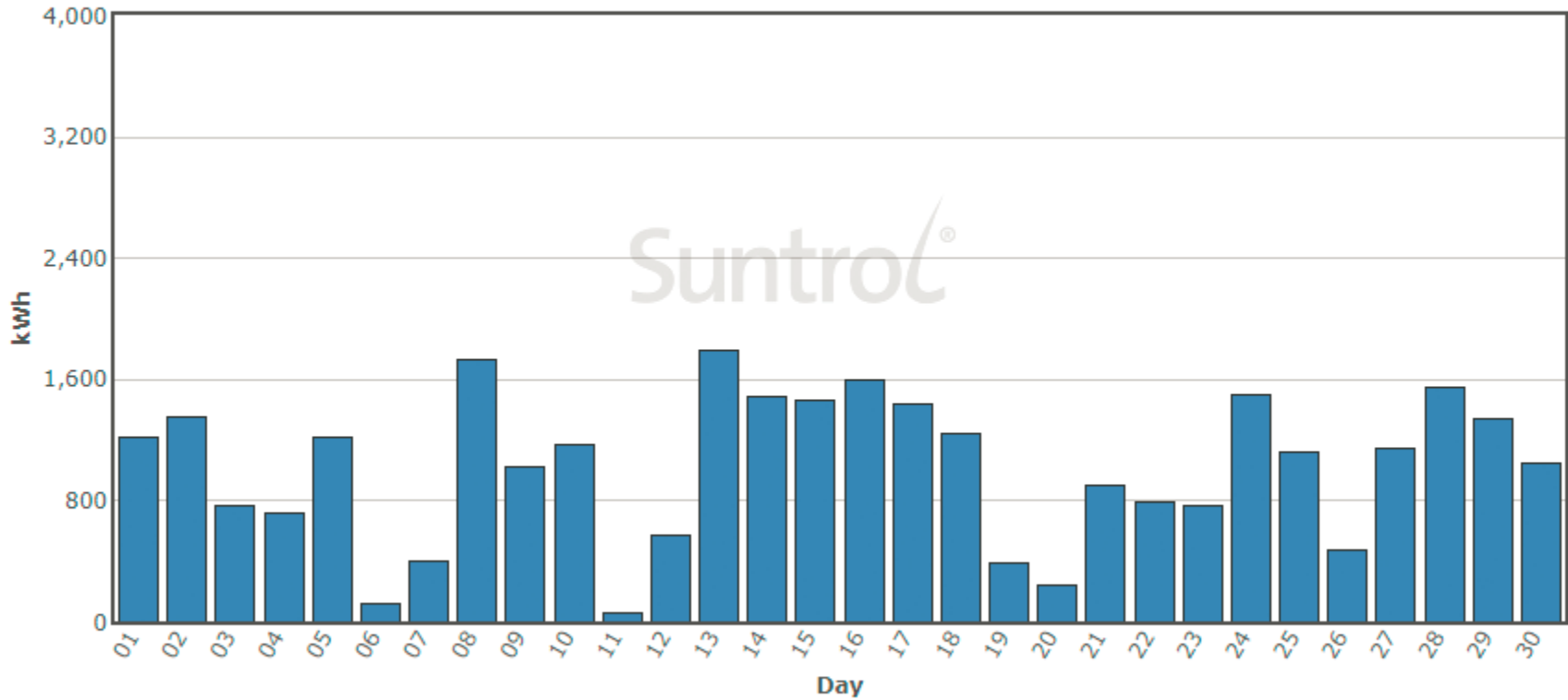
### ✓ *City*

*Installed requested and necessary electrical infrastructure upgrades  
(part of the overall project cost)*



HTML

Day Month Year Total -1 month +1 month





❖ Since 2012 Galena has:

- ✓ Adjusted cycle times to maximize solar production
- ✓ Saved in excess of **\$287,648** in energy costs
- ✓ Less than a 10 year payback
- ✓ Avoided **2,879,449** Pounds of greenhouse gases

**Installed a 32.5kW-dc solar array on City Hall**

- ❖ Establish Goals
- ❖ Identify potential locations for installation
- ❖ Fully engage utilities as early in the process as possible
- ❖ Execute energy efficiency projects
- ❖ Due Diligence
  - ✓ Equipment
  - ✓ Installers





[Cityofgalena.org](http://Cityofgalena.org)

Questions?