

80 kWdc PV Solar Project: Kaukauna City Municipal

On September 1, 2016, the rooftop solar photovoltaic (PV) system on the new Kaukauna City Hall started producing electricity. The 80.6 kilowatt (kW) solar PV system consists of panels that convert solar radiation into electricity to power the building. If extra electricity is generated, it's added into Kaukauna Utilities' (KU) distribution to offset purchase costs of grid-supplied electricity. It's estimated that the system will produce approximately 100,000 kWh of electricity every year.



Kaukauna City Hall

Engineering, electrical and maintenance crew from KU designed and installed 100% of the project. KU and WPPI Energy provided a grant of \$100,000 through the Renewable Energy for Non-Profits program to help with costs. The solar PV system will help utility employees and local officials gain experience in the field of solar PV installations, which will assist with policy and decision making in the future. Kaukauna's commitment to adopting this renewable energy technology will result in fewer Carbon Dioxide, Nitrous Oxide, Sulfur Oxide and particulate matter emissions.

The new city hall building also contains several energy efficient elements, including LED lighting with daylight dimming and occupancy sensors, geothermal heating and cooling pumps underneath the parking lot, R-24 R value for wall assemblies, low-e high performance windows and glazing and a 95% efficient facility natural gas water heater. Even though the new building has 89% more square footage than the old building, it uses 60% less kilowatt-hours (kWh) of electricity and has 26% less (in kW) load demand on the grid.



80 kWdc South Wing (looking North)

System Highlights	
Customer	City of Kaukauna
Building	Municipal Building
Location	Kaukauna, WI
System Type	PV Solar Roof Ballast
Completion Date	September 1, 2016
Installation Duration	~ 6 Weeks
Annual energy Production	100,000 kWh/yr
AC Capacity	80.6 kWac
DC Capacity / DC:AC Ratio	Utilizing 124 – 700W Solar Edge optimizers
Module Number & Type	248 panels (325 watt each) SolarWorld's Sunmodule 325XL Mono
Mounting Scheme	100% Ballasted Solar dock system used for the rooftop application.
Inverter type	(5) -14.4KWac Solar Edge inverters

Kaukauna's commitment to adopting renewable energy technologies is just one of the many green features Kaukauna prides itself on. Kaukauna Utilities used this project as a learning opportunity while highlighting the PV solar to municipal officials and the public with regard to photovoltaic technology. Kaukauna felt strongly that is important for the municipality and utility to gain experience in the field of solar PV installations, which will assist policy and decision making in the future.



At Kaukauna Utilities, we believe affordable public power strengthens our community and helps our neighbors. That's why, through WPPI Energy, we're partnering with other local not-for-profit utilities to share resources and lower costs.