

COMMERCIAL SOLAR PV CASE STUDY



QUICK GLIMPSE	
Customer	Ruyle Mechanical Services, Inc.
Measures Implemented	Commercial Solar PV System Install
Total Project Cost	\$62,500.00
30% Tax Credit	\$18,750.00
Solar Renewable Energy Credits (SREC)	\$32,523 over 5 years
Modified Accelerated Cost Recovery System (MACRS)	\$15,397 over 5 years
Expected Production	≈ 32,523 kWh/year or \$2,000/year
System Size	25 kW
Estimated Payback	3.3 years

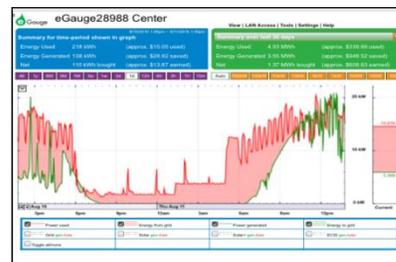
BASELINE

201 Spring Street is a 1940's era 3-story industrial warehouse building near the Illinois River in Peoria. In 2011, Steve Foster and Chris Benson bought the 26,400 ft² warehouse with the intention of repurposing the building into a mixed use office and residential space. As 201 Spring Street became occupied, control of the utility bills became a priority. Renovations required roof replacement. The building also had good, unblocked southern sky exposure. Owners Foster and Benson became interested in the potential of installing a solar photovoltaic (PV) array.

OUR SOLUTION

Solar PV systems are made up of photovoltaic cells, which are small semiconductors made from silicon and other conductors created in very thin layers. Chemical reactions with the sun release electrons, generating a direct current (DC). Inverters in the system convert the DC power to alternating (AC) current. The AC current is then fed to the larger electrical grid. An eGauge monitoring system tracks energy production and [allows for public monitoring**](#).

Ruyle partnered with Hawk Energy Solutions to design and install a 25 kW solar PV system for the roof of 201 Spring Street. The system is comprised of 90 – 280 watt solar panels with SolarEdge Optimizers, 2 SolarEdge inverters, and an eGauge monitoring system. Ruyle electricians are certified by the Illinois Commerce Commission to install and maintain renewable energy systems.



BENEFITS

Commercial renewable energy projects qualify for four incentives to reduce project costs: 1) a 30% Federal tax credit, 2) net-metering on the monthly electric bill, 3) selling Solar Renewable Energy Credits (SRECs), and 4) MACRS federal accelerated tax depreciation. The estimated payback is 3.3 years. 201 Spring Street is estimated to earn \$22,494 after 5 years on its solar PV system. Given a system lifetime of 25 years, 201 Spring Street is on a very bright path of renewable energy and controlled electric costs.

** Check out 201 Spring Street's Energy Production at:
<https://monitoringpublic.solaredge.com/solaredge-web/p/site/public?name=Spring+Street+201>

