

RESIDENTIAL SOLAR CASE STUDY



QUICK GLIMPSE

Customer	Steve and Cathy Heissler
Measures Implemented	Install Solar Photovoltaic System
Total Project Cost	\$18,980.00
30% Tax Credit	\$5,694.00
Solar Renewable Energy Credits (SREC)	\$ 6,480.00
Expected Production	6,832 /year 1 ≈ \$478.24
System Size	5.2 kW
Estimated Payback	± 7 years
Components	20- 260W SolarWorld Panels with Enphase M215 micro inverters

BASELINE

Built in 1961, Steve and Cathy Heissler's three bedroom house was getting all of its electricity from the grid. Searching for ways to reduce living expenses, the Heisslers began to research solar photovoltaic (PV) systems. In 2015, the Heissler's reached out to Ruyle Mechanical Services Inc. for information and assistance for a renewable energy system on his roof.

OUR SOLUTION

Ruyle is certified by the Illinois Commerce Commission to install and maintain renewable energy systems. Ruyle partnered with Hawk Energy Solutions to design a 5.2 kW solar PV system for the Heissler's home. The system is comprised of 20- 260W SolarWorld Panels with Enphase micro M215 inverters.

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 current (AC) power. An effective PV system should have unobstructed access to the sun for most or all of the day. Southern exposure is best; therefore, Ruyle installed the Heissler's PV system on their south facing roof.

"The install went well, very professional. I am super happy with the staff and the system production! Ron Sturm is the best, professional and easy to work with."
-Steve Heissler

BENEFITS

Steve and Cathy Heissler qualify for three incentives to reduce his project costs: 1) 30% Federal tax credit, 2) net-metering on their monthly electric bill, and 3) selling Solar Renewable Energy Credits (SRECs). An SREC is made when solar energy is not used simultaneous to production and goes back to the electrical grid through the meter. For every 1,000 kWh generated, one SREC is awarded. The Heisslers are projected to have a payback of 7 years, with a system lifetime of 25 years. With their new system and the free electricity it generates, the Heisslers are set to have a very sunny future.

