

XCEL ENERGY

SOLAR PV

The 1-megawatt Ashland Solar project is the third in what is currently the largest community solar program in Wisconsin. Commissioned in August 2019, this project joins the Eau Claire garden which began generating clean renewable energy in October 2017 and the Cashton garden which went online in March 2019. The three sites make up Xcel Energy's Solar *Connect Community program. Subscribers to the program pay a one-time fee and then receive credit on their monthly electric bill based on their subscription size and the combined solar energy produced by all gardens in the program.



photo by Jack Beagan for Cheq Bay Renewables

System Overview

- 984kW dc fixed ground-mount PV installation
- Solar system owned, developed, built, managed and maintained by OneEnergy Renewables based out of Seattle, Washington with electrical by Arch Electric, Plymouth, Wisconsin and Jolma Electric in Ashland
- OneEnergy Renewables sells the electricity to Xcel Energy (Northern States Power) under a 25-year power purchase agreement
- Land owned by Xcel Energy
- Grid-tied to Xcel Energy

Technical Specs

- 984kW dc consists of 3024, 325-watt solar modules and 14, 50kW SMA inverters
 - 7 arrays (rows) with 2 inverters per row, field mounted beneath the modules
- Racking is RBI fixed tilt at 30 degrees with 3' minimum ground clearance
- Underground is a 13,000-volt line from the transformer at the south of the site to the Xcel distribution line to the northeast of the site along Ellis Avenue
- Estimated generation is 1.3 million kWh per year

OneEnergy Renewable's Incentives

- Federal 30% Investment Tax Credit
- Federal bonus depreciation
- OneEnergy is pursuing a USDA loan for 60% of the cost of the system

Project Costs

- Approximately \$1.5 million
- Approximately \$1.50/watt DC

Installation

- Approximate time to complete project was 6 weeks
- Lessons learned: June is a great time to build solar in northern Wisconsin!
- Recommendations: Let's do more community solar in the Northwoods!

Subscription Costs

- \$1,568 per kW (\$1.57/watt)
 - Minimum size is 200 watts or \$313.60
 - Maximum size is 100% of usage up to 400kW
 - One share would offset approximately 3% of the electric use for a typical house

Estimated Benefits to Subscribers

Xcel Energy has online residential and business subscription calculators at [xcelenergy.com/SolarConnect Community](https://www.xcelenergy.com/SolarConnectCommunity) so that you can check out various subscription sizes to match your energy and budget needs. The typical home in our Wisconsin area uses 750 kWh a month (9,000 kWh per year). The example below provides an approximate subscription size necessary to cover a percentage of a home's monthly energy use.

- Estimated 280 kwh annual generation per 200-watt share or \$21/share/year
- Would take about 30 shares to offset a typical Wisconsin household or \$9,600

Checkout Xcel Energy's new renewable energy program called Renewable*Connect at:

<https://www.xcelenergy.com/RC>