

MARK & ERICA PETERSON RESIDENCE

SOLAR PV

Welcome to our solar garden. We felt compelled to add solar to our landscape six years ago when we bought this sun-drenched property. As environmental educators we see this as a way to inspire others to take action locally to help solve a global issue. We feel that our new solar panels are an important personal step we can take to decrease our footprint. It's a small step but it also reminds us that the un-renewable energies we have been using leave such scars on the environment we so cherish and endeavor to protect. We join others in thanking Cheq Bay Renewables for making this possible.

- Mark & Erica Peterson

System overview

- Patriot adjustable ground-mounted PV installation
- Installed by Next Energy Solution with electrical by Jolma Electric
- Grid-tied to Xcel Energy with net metering

Technical specs

- 5.4 kW dc consists of 20, 270-watt solar modules manufactured by Peimar
- Modules Model SG270P made in Italy with 30-year performance warranty
- Built-in web monitoring
- Inverted from DC to AC using Fronius Primo 5kW string inverter
- Estimated generation is 7,900 kWh per year

Incentives

- 30% Federal Residential Tax Credit for renewable energy
- Focus on Energy Prescription Grant paid for 11% of the system

Costs & Benefits

- Cost of fully installed system was \$18,176
- Out of pocket cost after incentives: \$10,723
- Estimated payback of 9.8 years
- 20 year annualized Internal Rate of Return: 9%
- 20 year tax equivalent yield at 21% tax bracket: 11.4%

Why install an adjustable mount?

The Patriot mount is seasonally adjusted on a single axis to more closely follow the sun's seasonal variation. Manual adjustable mounts are typically adjusted either twice or four times per year. The adjustments increase generation by optimizing the angle of the solar modules in relationship to the sun. A steep winter angle also allows snow to shed more readily. Adjusting the mount twice per year can raise generation totals 12-15% and if four times per year an additional 2%.

www.cheqbayrenewables.org