JEFF AND DEB LEWIS - RESIDENCE

SOLAR PV

As grandparents, we are keenly aware of our responsibility to future generations. The Solar Group Buy opportunity last year was the first time that it became easy and feasible to do something substantial to reduce the carbon footprint of our home. Regardless of whether we recoup our investment at this location, it is important to us to do our part to support the renewable energy economy. Our low electric bills this year are an added bonus!

Jeff and Mayor Deb Lewis, owners

System overview

- Asphalt roof-mount style PV installation
- Installed by Next Energy Solution with electrical by Jolma Electric
- Grid-tied to Xcel Energy with net metering

Technical specs

- 3.78 kW dc consists of 14, 270-watt solar modules manufactured by Peimar
- Modules Model SG270P made in Italy
- single-phase system, 14 modules per string

- Inverted from DC to AC using Fronius Primo 5.0
- Fronius web-based monitoring
- Estimated generation is 4300 kWh per year

Incentives

- 30% Federal Investment Tax Credit for renewable energy
- Focus on Energy Prescription Grant paid for 12% of the system

Costs

- Total cost including solar system and electrical: $9,839
- Out of pocket costs after incentives: $5,706
- Estimated payback of 10 years
- Estimated 25-year annualized internal rate of return: 10%
- Estimated 25-yeat annualized tax equivalent return: 13.3%

Site Challenges

- Ashland streets and therefore most buildings do not face north-south or east-west. Rather, this array faces southwest at 225 degrees. The 45-degree offset from due south reduces the annual generation 200kWh/year or about 4.5%. Not a game-changer, but something to consider.
- Additional challenges come from nearby trees shading the solar array at certain times of the day. Do you cut down trees to increase solar generation? Aesthetics as well as the fact that trees capture carbon are additional choices to be made by the home owner.