

Solar Panels as an Investment in Mackinaw City

A. Dwyer discussion 4/11/2018

On a snowy, blustery November 11, 2017, afternoon I visited Richard Riker in his comfortably warm solar house in Mackinaw City, MI which features, solar electrical generation, solar space heating in addition to weatherization and insulation. He only heats 720 square feet during the winter

Solar Panels and the Grid and Investment

Richard produces his own electricity with 15 (3' x 5)' solar panels on his roof rated at 210 Watts. He installed 10 panels in 2008, and 5 more recently for a capacity of a little more 3000 peak watts. He also has energy efficient lighting and uses some electric space heat in the spring and fall along with a solar heating system. In Mackinaw City, Michigan, these panels produce about 3,000 kilowatt hours of energy each. He has a complete record of all costs and earnings from his system over the past 8 years.



When the panels do not produce enough electricity, the Consumers Power grid supplies the rest. When the panels produce more electricity than he can use, the excess electricity sold back to Consumers Power at the same rate he pays for it. Thus the grid acts as Richard's "storage system" making batteries unnecessary. Consumers Power does charge a minimal monthly fee for this service.

Back in 2009, Richard looked in to the question of return on investment, as opposed to payback time, how long it would take to pay back the cost of the investment. He learned that the initial 10 panels earned him 2.2% interest in his investment and now he now earns almost 3% interest on the cost of all 15 panels, far better than the 0.1% interest the bank was paying him. The cost of the solar equipment, apart from the installation costs was about \$17,000, though, due to falling solar panel costs, the same equipment would cost about \$7,000 plus another \$3,000 for installation. At this lower rate, the return on the investment would be about 5.6%.

The inescapable conclusion of this story is that solar pays in Northern Michigan.

Insulation and Solar space heating

Richard's north porch entry-way is enclosed with glass providing a very nice welcome on a cold day.

The south wall is covered with space heating panels which circulate air warmed by the sun hitting a black surface and trapped behind a clear plastic.

Backup space heat is provided by high efficiency gas furnace through DTE in the coldest winter months.

3. Richard is also working on raising funds for neighbor and friends to install a similar system through Strawberry Solar in Detroit