

COMMUNITY

Local homeowners tout first Net Zero Energy home in Toledo area

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Local homeowners Robert and Barbara Schmitt, along with their builder, Bill Decker Sr. of DECKER HOMES, claim to have the first Net Zero Energy home in Northwest Ohio.

Solar panels were installed on the roof of the Schmitt's house and garage in Monclova Township that helped make it a Net Zero Energy home.

Photo courtesy of John Decker, Decker Homes.

Robert and Barbara Schmitt selected well-known energy-efficient builder Decker Homes of Lambertville in 2010 to build their new home in the Deer Valley development in Monclova Township.

The U.S. Department of Energy defines a Net Zero Energy home as one that uses 60 to 70 percent less energy than a conventional home with the balance of its energy supplied by renewable sources. It is essentially a home that sustains itself by generating the bulk of its own energy and making extra to sell back to the utility through "net metering" that offsets the amount purchased.

Another source defines a building with zero net energy consumption as meaning the total amount of energy used by the building on an annual basis is roughly equal to the amount of renewable energy created on the site. The Schmitt's home appears to qualify under both definitions.

The couple moved into the 2,300 square-foot house in March of 2011 but didn't achieve their ultimate goal of having a Net Zero Energy home until last month. Bob had worked in the construction industry for many years before retiring in 2010 and asking Decker to help them accomplish their goal.

Decker Homes included a geothermal ground source heating and cooling system, Energy Star appliances, LED lighting, and other energy-saving technologies to reduce energy costs as much as possible. Schmitt insisted upon having foam insulation sprayed in the attic, basement and walls of the house with plans to add solar power in the future.

When the cost of solar had dropped by 50 percent three years later, the time was right to add solar panels as the final step in having their Net Zero Energy home, Schmitt said.

"More people are talking about Net Zero and asking about geothermal and solar. The cost of solar keeps coming down and making it more affordable," Decker said.





Bill Decker and Bob Schmitt check out the solar inverter in the basement of the Schmitt home that indicates how much energy the solar panels are generating.
Toledo Free Press photo by Duane Ramsey

The Schmitt home was the fifth home built by Decker Homes in Deer Valley with solar but the only Net Zero Energy home, although another one is close but not net zero, Decker reported.

The Schmitt home built by Decker Homes is the only Net Zero Energy home in the area as far as the Home Builders Association of Greater Toledo, Inc. knows, according to its executive director Jennifer Lynch.

The Schmitts signed a contract in August for 8 Kilowatts (KW) of solar at a cost of \$3.57 per watt with Ohio-based Dovetail Solar and Wind recommended by Decker. They designed a solar system that would reduce the household energy costs to zero, according to Dave Leahy, director of sales for Dovetail.

“We had a three-year history of energy consumption of the Schmitt home and we knew how much an 8K solar system would produce in the Toledo area to achieve net zero energy,” Decker said.

The rooftop photovoltaic system consists of 32 Solar World 250-watt, 60-cell panels mounted on the roof of the home and garage. The tilt angle of the panels and roof is about 40 degrees, according to Dovetail’s listing of the Schmitt project.

The solar installation was completed in late September. The system was approved and activated on Oct. 1. Toledo Edison installed a new digital meter to accommodate the solar system on the home.

“They were surprised to see it was running backward,” Schmitt said, explaining the meter’s direction was due to the solar power being generated by their system.

On a bright sunny “peak” day, Schmitt reported it can generate as much as 45K with the meter literally flying backwards. Barbara said her husband really enjoys watching it run backwards.

In the first month, their system generated 663 kilowatts per hour (KWH) in October to cover the home’s 139 KWH of power usage. Schmitt said that it generated more than 110 KWH in the first four days of November.

“You only get down to zero. They won’t pay you when it goes beyond that,” Schmitt said. “If we generate more than our total consumption, Edison will show a credit for the next month and the credit would build up until we would use more than we generate.”

They don’t expect that to happen. Decker said the Schmitt’s 8K solar system is expected to produce about 10,500 kilowatts of electricity per year with the home consuming about the same amount. The average over 12 months would confirm the net zero.

Schmitt said the 30 percent solar Investment Tax Credit (ITC) from the federal government also helped make the solar installation more affordable.

Since the ITC went into effect in 2006, investment in solar installations will be 70 times higher in 2014. However, the ITC is scheduled to expire in 2016, according to the Solar Energy Industries Association (SEIA).

“The price to install a solar rooftop system has been cut in half. Solar has gone from being an \$800 million industry in 2006 to a \$15 billion industry today with 143,000 Americans currently employed in solar,” stated SEIA President and CEO Rhone Resch.

The SEIA launched a national campaign Oct. 20 to extend the 30 percent solar tax credit past 2016 by emphasizing tax fairness. Since the U.S. began offering incentives for energy development, the average annual subsidy has been \$4.8 billion for oil and gas, compared to just \$370 million for renewable technologies, according to Resch.

The next closest thing to a Net Zero Energy home in the Toledo area is probably the home of Al Compaan, retired professor of physics and astronomy who was involved in research and development of photovoltaic technology at the University of Toledo.

Compaan said they have a net zero electricity home with a solar installation that provides power for all their electrical use including the air conditioning. They use natural gas for heat instead of geothermal systems found in most net zero energy homes, he reported.

Compaan currently serves as president and CEO of Lucintech Inc., a start-up company involved in the development of thin-film photovoltaic modules that convert sunlight directly into electricity. The semitransparent modules can be applied to glass and flexible polymer sheets that are suitable for windows on buildings and automotive sunroofs.

Tags: [Al Compaan](#), [Barbara Schmitt](#), [Bill Decker](#), [Net Zero Energy](#), [Robert Schmitt](#), [solar](#)

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*Information below provided by Bob Schmitt (Homeowner) through email conversation with Bill Decker, Sr.

OCTOBER 2014 - SOLAR SYSTEM PRODUCTION

Total Bill for the month of OCTOBER.....\$20.88 (of the \$20.88 bill, \$4.00 is a customer service charge)

Total KWH.....139 KWH

System Generated over 663 KWH for the month.

(4) days in the month of OCTOBER the system generated over 110 KWH

“There are various articles out about shutting down coal fired power plants starting next year because of pollution. This would only drive the cost of electricity up. If this happens, my system will pay back quicker than estimated.”