

EXCITING NEWS AT DH!

Decker Homes has not one, BUT TWO GEO/SOLAR Homes now under construction.

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Seeing new homes under construction in the Bedford area isn't anything unusual however two homes currently under construction will be the first of their kind in this area when completed. Decker Homes of Lambertville has had a focus for years on constructing energy efficient homes and now has under construction the first homes with both geothermal and solar electric renewable energy systems in the area.

"One of the homes is located at 9875 Jackman Rd. in Temperance and the other is in Whiteford Twp. at 7325 Temperance Rd," Bill Decker Sr., owner of Decker Homes, said. "Solar PV (photovoltaic) generates most or all, depending on the size of the PV system."

The geothermal heat pump (GHP) transfers heat from the ground to provides heating, air conditioning and hot water for the home or building," Decker explained. "Geothermal eliminates the need to burn fossil fuel."



"GHP and Solar PV are both solar technologies. Forty-nine percent of the sunshine that strikes the earth is stored in the top crust (top 20 ft.) and the GHP is transferring that heat into the house while the same sunshine striking the solar panels is converting sunshine into electricity," he further explained.

"The easiest way to describe a Net Zero home is that the home produces as much energy as it consumes," Decker said. "Net Zero Energy (NZE) can be achieved by a combination of building an energy efficient home, then installing GHP and PV technologies powering the house with sunshine. "Lowering your electric bill to zero is now achievable."

Additionally, to reach the NZE goal, the houses are well insulated, have triple-paned windows, energy efficient appliances and use LED lighting. "Solar works extremely well on the south side of the house obviously, but is adequate on the east or west and any angle southeast or southwest," Decker said. He said that in this area five feet down in the ground is as far as you have to go to tap into using geothermal heat. "It's 50 to 55 degrees in this latitude," he said. "The unit raises the temperature to about 100 degrees." In the summer the heat is taken from the house and put back in the ground. The solar system is tied into the utility electric grid. When enough electricity is produced for the home's needs, the excess power is fed into the grid. For periods of time when the sun isn't shining, the system draws power from the grid.

Decker said that a generator could be used as a backup power source if the grid goes down and that battery backup technology is coming. "Technology is rapidly changing. The cost of the solar panels has dropped 73 percent since 2006." The panels he uses are manufactured in Saginaw Michigan. It takes about 10 years to recoup the cost of the GEO/Solar system. The typical residential solar system has a lifespan of 30 years, as it requires no regular maintenance. There are also tax credits for renewable energy homes.

Dave and Carol Reiman are the owners of the house that is being constructed on Jackman Rd. and anticipate that their home will be a Net Zero home. "With all of the energy efficient technologies like geothermal, HVAC, triple pane windows, premium insulation and LED lighting, we expect the solar panels to generate as much power as the home consumes over the course of a year," Dave said. "The home will still be tied to the electrical grid. At times the solar panels will generate more power than we are using in the home. That excess power goes onto the grid to be used by other consumers and for that excess we will receive energy credit to be used when the solar panels are not generating enough energy to meet our needs. We expect to save approximately \$2,100 a year on electric and gas bills."



States are encouraging the construction of NZE homes. California, the number one solar state for solar installations is requiring all new homes to be built to NZE standards by 2020. "The three top northern solar states are Massachusetts, New Jersey and New York," Decker said. "Greensburg, Kansas, Boulder and Denver Colorado are the hotspots with a goal of being net zero areas.

"Other countries are also turning to renewable energy. "The number one country in the world for solar power is Germany," he added, "It is important to note that Germany receives about the same amount of annual sunshine as we do in Michigan." NZE technology is also being installed in commercial construction. "The LISD (Lenawee Intermediate School District) building in Adrian is Net Zero—the first in Michigan," Decker said. "It's so gratifying for me to see this taking place. It's clean, and renewable and not polluting the atmosphere and hurting anyone's health," he said.

In addition to the benefits of very low or no cost energy bills, benefits on a national level as this type of home construction increases is that there are no on-site exhaust emissions, lower greenhouse gas levels, improved air quality and a lessening of acidification of lakes, rivers and oceans. The U.S. economy will also be aided as the country has increased energy independence. People's health will benefit as those individuals with asthma and COPD will breathe easier. Additionally, the resale value of the home is higher. Decker has had a long time interest in constructing homes that produce as much energy as they consume and is very knowledgeable on the subject. He keeps up to date on technology by attending seminars. He

belongs to the Great Lakes Renewable Energy Association, Green Energy of Ohio and the North American Net-Zero Energy Coalition in Toronto.

Dave Reiman has also had a long time interest in renewable energy homes. "I have been interested in energy efficient homes since I was young and my father installed solar panels on our home in 1976," he said. "Our son is an electrical engineer and PhD student, specializing in research on renewable energy. We discuss the topic frequently in our home. "When we built our first home 18 years ago, we built with Bill Decker Sr. and Decker Homes, a builder who was and is known for building high quality, energy efficient homes. When we decided to build again we wanted to build with Decker Homes. Our goal was to build an energy efficient home with geothermal heating and cooling and solar power," he said.

If you are going to be constructing a new home and would like to explore the possibility of a NZE home, Bill Decker Sr. would be happy to explain the system to you. You can contact him at (419) 392-3849 to set up an appointment or visit www.deckerhomes.com.