



HUDSON VALLEY CLEAN ENERGY

makes history.



Hudson Valley Clean Energy's warehouse in Rhinebeck produces as much energy as it consumes.

Hudson Valley Clean Energy's 4,100-square foot warehouse in upstate New York uses solar energy, geothermal heating and cooling and other technology, to produce as much energy as it consumes, making it the first "zero net energy," carbon free commercial building in New York State. Its total annual energy bill for 2008 was a mere \$266, essentially for just being connected to the grid.

This past November, at a special event congratulating HVCE Founder and President, Jeff Irish, and Vice President John Wright, for being trailblazers for zero net energy buildings in New York, Governor David A. Paterson stated, "Increasing our energy efficiency and use of renewable energy are two critical strategies for meeting the energy needs of a growing economy, creating local jobs, and reducing greenhouse gas emissions...Hudson Valley Clean Energy's commitment to implementing the State's Clean Energy agenda through efficiency and clean distributed energy technologies is a model for other businesses to follow here in New York."

HVCE's building is all-electric, and consumes less energy than it generates using a Photovoltaic or PV system to generate electricity from the sun, and solar thermal collectors to heat all its hot water. Two geothermal units provide all heating and air conditioning using electricity from the PV system and heat extracted from the earth.

"As an engineering design and installation company for solar electric, solar hot water, geothermal systems, and zero net energy buildings, it made sense when we built our new headquarters a year ago that we use it to demonstrate what is possible," explained Jeff Irish. "Many buildings no longer need to have energy bills, or use oil or gas to heat with. We put in place a weekly energy generation and use tracking system. In our first year of operation we generated 16,614 kilowatt-hours of electricity and used 15,636. So we generated more energy than we used."

John Wright continues, "Net metering has been critical in making zero net energy possible and financially viable. Our utility meter actually spins backward, selling electricity to the electric company, when more energy is being generated than the building itself is using. So, via the solar/geothermal package, combined with net metering and high-energy performance building design, we not only generate our own energy on site from the sun and earth, but we do it without any fossil fuels, or carbon footprint. Our only energy bill was about \$22 per month for being connected to the grid."

In addition to the distinction of being the first zero net energy carbon free building in New York State, there is a strong probability that HVCE is the first zero net energy carbon free building in the entire northeast. The company is currently in application for this merit. In a statement by David Barclay, Executive Director of the Northeast Sustainable Energy Association, "Zero net energy is a very high bar, and reaching it is a particularly difficult

challenge for commercial buildings. To date we have not had any commercial buildings in the northeast register with us as zero net energy."

One of the key reasons for making a building zero net energy is because it saves money. This rationale makes more and more sense with all that is going on with the current economy. Explains Jeff Irish, "If we had built our building using conventional construction methods and installed oil heat and central air, we would be spending \$841 per month on oil and electricity (at today's prices). Instead, we get to spend only \$702 per month, \$22 to be hooked up to the grid and \$680 additional on a 20-year mortgage. The \$680 higher monthly mortgage payment is for financing the investment in improved insulation, better ventilation, geothermal wells and equipment, solar PV system and solar hot water system. So we save \$139 per month right now by going zero net energy. Furthermore, the monthly mortgage payment is fixed for 20 years, whereas monthly oil and electrical costs will just go up every year. Zero net energy is a predictable, low risk investment."

There are also many environmental benefits for installing renewable energy systems. Besides being clean and efficient, renewable energy systems decrease greenhouse and acid rain gas emissions by reducing the amount of oil, coal and natural gas that is burned by electric utilities, thus contributing to improved air quality. Greenhouse gas emissions are the number one cause of global warming, which is causing both ends of the earth to melt at an alarming rate, and has already begun to cause numerous environmental problems around the globe.

"Sustainable green building practices are no longer a luxury; they are a necessity for our economic, environmental and energy security," said Assembly member Kevin Cahill. "Hudson Valley Clean Energy is a shining example of how a commitment to these priorities will yield short and long term benefits for all New Yorkers. I congratulate them on their success and look forward to the day when achievements like these become the norm rather than the exception."

Hudson Valley Clean Energy (HVCE) is the premier full service engineering design and installation Company for solar electric, solar hot water, and geothermal systems, and a designer of zero net energy buildings. Its headquarters, located in Rhinebeck, New York, is the first zero net energy, carbon free, commercial building in New York State. HVCE is dedicated to helping produce clean and efficient renewable energy to protect the environment and benefit the consumer. Founded in 2002, HVCE serves Ulster, Dutchess, Columbia, Greene, Putnam and Orange Counties. For more information, visit hvce.com, or visit them at The Hudson Valley Green Fair, April 25 & 26, at the Dutchess County Fairgrounds in Rhinebeck.

Contributed by Jacqi Anderson.