



Ecovillage: A simple life in Loudoun

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Dave and Beth Wiseman's home was made with "smart windows that have low emissivity coatings and an inert gas sandwiched between window panes. Low-E coatings typically cost about 10-15 percent more than regular windows but reduce energy loss by as much as 30-50 percent. The inert gas, usually argon or krypton, also helps improve the thermal performance of the window by reducing the conductance of the air space between the panes.

Located deep in western Loudoun, near Lovettsville, where strip malls don't exist and deer almost outnumber the people, lays a community dedicated to limiting their carbon footprint.

The Ecovillage property was purchased in the mid-1990s, selected from 50 other properties. Ecovillage is a community designed so everyone knows their neighbors and gathers regularly for pot lucks and tree planting. Fourteen homes rest on the property and there's room for roughly five more.

One of the values of Ecovillage is to protect and enhance the diversity, abundance and balance of native plants and wildlife. "We want to go back to what nature would want here. How can we be gentler on the land? We plant all local species of trees that would naturally grow here," Grady O'Rear, one of the original residents, said.

There are no paved roads, no street lamps and grass and trees are allowed to grow wild as long as they aren't invasive. The original 180 acres was divided into 25 rural hamlet lots and three conservancy lots. One conservancy lot has been placed in permanent conservation to prevent development. Animals such as deer, squirrels and birds roam free around the neighborhood, poking out through the grass in the middle of the day; something you're unlikely to see in a highly-developed neighborhood.

"I'm glad to see Ecovillage happen in my lifetime. It's a tremendous learning experience. There is a tendency to look at the natural world as foreign. How do we create a community together with goals in mind to promote values of community and the environment?" O'Rear said.

Dave Wiseman is the general manager and a resident of Ecovillage. He built his custom house to be energy efficient and environmentally friendly. His floors are made of old fence posts from a local farm. He uses geothermal piping under his house to heat and cool year round. "We build with elements, sun and wind patterns, overhangs on windows to keep heat out and bring it in during the winter, natural day lighting and cross winds in the spring," O'Rear said.

Construction of the Ecovillage homes includes structural insulated panels, laminated with structural adhesives to oriented strand board structural sheathing. The sandwich panel forms a strong insulated panel that, aside from being environmentally kind, is cost efficient. SIPs are made from renewable wood re-

sources and the expanded polystyrene insulation contains no HCFs, CFCs and HCFCs. The life cycle analysis of SIPs shows a substantial reduction in greenhouse gas emissions.

Geothermal is a common alternative to heating and A/C at Ecovillage. It utilizes the difference in temperature between the air and the ground, which is a constant 55 degrees. Geothermal has no outside unit, but instead a series of pipes deep in the ground in a loop formation and then connected to the home by a heat pump. The only energy consumed in geothermal energy is a small amount of electricity to run the pump.

Solar energy is also in widespread use in Ecovillage. O'Rear has two sets of solar panels, one on his roof and one on the ground to generate electrical power by converting solar radiation into direct current electricity using semiconductors in a method called Photovoltaic.

Solar panels use Photovoltaics to generate electrical power.

The position of the houses in Ecovillage differs from the norm, as well. "While most houses are positioned toward the road, our houses are all southern facing to take advantage of the sun for light and heat throughout the day," O'Rear said. "Trees surrounding the house help because trees that lose leaves in the winter-time help sun penetrate the house and heat, while the summer foliage helps shade."

Mike Saedlo has been a resident of Ecovillage for five years. His wife found out about the property and encouraged the family to build a house in a green community. "We liked the idea of green and nature and living in a sustainable place so we took a basic design that Ecovillage provided and went through with the construction." Mr. Saedlo said.

Saedlo's house is made of 8-inch straw based with green chemical 4-by-8 plywood panels. His house uses geothermal heating and has recycled floors and doors that come from a farm in Wisconsin. Because most houses, including Saedlo's, are custom built, Saedlo and Ecovillage hope to create something to make the available properties more attractive to families interested in green living. "We are hoping to have a better comprehensive guidebook online for people hoping to build on the property. It's not easy to build green and we want to make it seem more attainable for people." Saedlo said.

What also sets Ecovillage apart from other neighborhoods in Loudoun is that it is intentional, meaning there is a certain number of lots zoned and everybody truly knows their neighbors. There are 40 residents ranging in age from 3 to 80. Potlucks are hosted twice a month at residents' homes, work parties are organized to plant trees and babysitting each others' kids and seasonal parties are common social activities.

"It isn't for everyone. It's a place for people who are thoughtful about the environment and want to know their neighbors." Wiseman said.