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Local 'green buildings' featured in tour

By Tim Wacker

Staff Writer

By all accounts, the 186-year-old house at 84 Academy Road in North Andover is historic.

But take a closer look.

In the basement, fixed above the cleanout box for the fireplace stands \$5,000 worth of state-of-the-art electronics that turn the 3,000-square-foot house into a mini power plant.

Banks of solar panels in the back yard convert sunlight into more than enough electricity to power the house, car, lawn mowers and tractors with enough left over to share with the rest of Merrimack Valley, all thanks to the fancy hardware.

"It's kind of a strange juxtaposition between the house and the solar panels, but we just see it as conservation," said homeowner James Worden, who is opening his home for public inspection as part of a statewide tour of energy-efficient homes tomorrow.

"But, once it's all installed, there's really nothing to do," Worden said. "It's pretty simple stuff."

Simple if you're an electrical engineer specializing in solar power, which Worden is. He's co-owner of Woburn-based Solectria, which started out making electric cars, but now concentrates most of its efforts on the hardware that helps houses like his declare independence from companies like MassElectric.

The house still has a respectable gas heating bill, Worden said, but everything else is solar-powered. The panels in the back yard produce enough electricity to heat the water, run the stove, and charge the banks of batteries that power the family cars.

With all the original windows, doors and walls -- the house is far from fuel efficient, Worden admits. But, with free electricity, who cares?

On cloudy days and cold winter nights, the house pulls energy from MassElectric's wires, which lead into the basement and connect to the wiring leading to the solar panels. On hot summer days, Worden's system produces more than enough power to run the air conditioners with the rest going back into the grid.

It's a give-and-take that has Worden's annual electric bill down to about \$5.

"At times the electric meter runs backward," he said. "Most people don't think about putting power back into the grid, they just take it out."

For those who want to take a closer look at Worden's house and power system, your chance is tomorrow. His home and system, and four homes in Andover, are part of the annual Green Buildings in Massachusetts Tour.

For the Andover homes, the emphasis is on efficiency. Extra insulation, double-pane windows and energy-saving lighting are being built into new homes at the Greenwood Meadows housing development.

Such measures will help buyers save 40 percent on their energy bills, builders Willard Perkins and Tom Piekarski said. That means about \$800 in annual gas bills for heating and hot water for homes that range about 2,800 square feet.

"With the price of fuel these days, to have a home that isn't energy efficient is crazy," Perkins said. "It's not that much more work, and I think it's a commitment that's catching on."

To save big bucks, you need to build a tight home. The homes in Greenwood Meadows are vacuum-tested to make sure no outside air enters. The heating ducts are wrapped and pressure tested to make sure nothing leaks out. And every light is fluorescent.

Undergoing all the inspections has helped earn the homes at Greenwood Meadows four stars in the federal Energy Star rating system. That recognition gave them a place on the tour, said Anissa Sanborn of the Northeast Sustainable Energy Association, which is organizing the event.

"If your home has been Energy Star rated, you will be included," she said. "And most people love the idea of opening their homes because they really want other people to buy these systems."

The tour has been running for 10 years, Sanborn said, but has really caught on in the past three. In 2001, it was expanded to include all fuel-efficient buildings, commercial and residential, and this year the tour has 49 buildings. Participation has doubled as the tour has grown, Sanborn said.

"It's been growing exponentially," she said. "We had roughly 200 (people touring) in 2001. Now it's close to 400."

The tour runs from 10 a.m. to 4 p.m. and includes 48 homes throughout the state. Anyone interested in a tour can call (413) 775-6051 for more information or look on the Internet at www.nesea.org.

if you go

ANDOVER

Where: Greenwood Meadows units 1, 8, 9 and 12.

When: 10 a.m. to 4 p.m., tomorrow

How to get there: Interstate 93, Exit 43, Route 133 east to left on Greenwood Road. On right before Chandler Road intersection.

Who: Open to public. Builders available for tours and questions.

NORTH ANDOVER

Where: 84 Academy Road

When: 10 a.m. to 4 p.m., tomorrow

How to get there: Interstate 195, Exit 42 south, left on Routes 133/125, right on Andover Street, left on Academy Road.

Who: Open to public. Owner will conduct tours.