

It's getting easier to be green

by Jenny Cox

The typical older house in Connecticut loses so much heat that "it's as if a door is left open all the time," architect Peter Coffin said. Peter is a partner at Doyle Coffin Architecture of Ridgefield, which specializes in green-building practices and sustainable design. With the winter heating season approaching, he said now is a great time for homeowners to take stock of their home's energy efficiency.

Most homeowners can trim their heating costs with simple, relatively inexpensive home improvements, Peter and his partner John Doyle contend. But to go beyond the basics and transform the home into a great space to live with less environmental impact and less monthly overhead, Doyle Coffin Architecture recommends homeowners turn to an experienced architect.

"Our comprehensive approach includes a full analysis, starting with complete 'existing conditions' drawings and resulting in a full 'green retrofit' to meet the homeowner's specific goals," John said. "We address the property's sun angles and contextual features, and determine where the structure's inefficiencies are." The "green retrofit" considers the structure itself – the energy supply, air flow and quality, water management systems, as well as proper detailing.

John is a LEED-accredited professional, which means he has demonstrated the knowledge of green-building practice required for the Leadership in Energy and Environmental Design (LEED) rating system. He believes the move toward sustainable building practices is a challenge to everyone. "In this economy there are no throw-aways," he said. "In the United States, buildings use 30 percent of the country's

total energy and 60 percent of the electricity.

"Any project we do, we take the approach of high performance and efficiency," he said. "For some people, it's about the bottom line. For others, it's just the right thing to do."

Energy Saving Tips / Sealing The Envelope

To cut energy costs, think of the house as an envelope, and look for ways to seal it, Peter said.

Many older New England homes lose heat around the windows. When they were constructed, builders typically did not insulate window frames, so the cold air seeps in around the windows. An insulation company can blow in additional insulation to make the house tighter. Windows and doors should be checked for heat loss, and caulked and weatherstripped as needed.

Properly fitting storm windows can dramatically cut heat loss, Peter said. "Anyone with single-pane glass windows should consider replacing them."

Installing programmable thermostats in place of single-setting units is an easy energy saver. "Programmable thermostats allow you to have the heat go back up just before you get home from work or before the kids get home from school," he said. "You can buy them at a hardware store. Everyone should have them."

Beware of "vampire" appliances that use electrical power even when they are not in use, John said. Appliances in "stand-by" mode account for as much as 20 percent of home-energy use. Plug appliances into a power strip rather than directly into an electrical outlet so that they can be switched off when not in use.



Doyle Coffin Architecture

As long as they're well-insulated, windows and skylights function as a passive form of solar power.

Smart House/A Machine to Live In

Today's technology makes legendary architect Le Corbusier's description of a house as "a machine for living in" more apt than ever. To celebrate the industrial age, Le Corbusier designed the Villa Savoye, in a suburb of Paris, to emulate a machine. "Today's equivalent is a 'smart house,'" John said. "Today it is possible to log in and check the inside and outside temperatures, as well as the hot water in your tank, and turn your lights on and off and your heat down from anywhere."

Recent tax incentives for geothermal and solar systems have made alternative-energy sources more affordable. Geothermal units use vertical or horizontal underground loops to draw on the earth's internal temperature for energy-efficient heating and cooling. Solar energy can be used both for heat and for light, and the energy can be stored in large batteries. Solar lighting tubes are an attractive way to bring sunlight into the home, giving an emotional lift through natural light.

With ever-rising energy costs, John believes that in the future, most

houses will be powered by a combination of direct electrical current and alternating electrical current stored from alternative-energy sources. "If you can run just part of the house on solar power, you'd see a big savings," he said.

A knowledgeable architect can provide advice on how to best use today's technology, John said. "Let's say you have an antique house with an uninsulated addition and poor windows, maybe the addition uses electric baseboard heat and is not efficient. As an architect you can take that piece off and marry a more efficient piece that adds functionality and brings the overhead down. You might reorient a porch so that it takes advantage of natural light and heat, or open up the top of an existing room so you have a more natural wash of light."

"Our expertise is to look at the whole picture," he said. "Today's home buyer seeks out houses that are not only well-designed but provide long-term sustainability, including cost and energy efficiencies. By having an experienced architect 'green retrofit' your home, you add both value and marketability." ■



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Peter Coffin and John Doyle, right, recommend a "green retrofit" to save money and energy.