

Understanding Energy Star: Passive Solar Energy Techniques

By *Stacey Hawkins*

Many people know that buying an Energy Star® home will save them money on their utility bills, and reduce the negative impact they have on the environment, but to understand why Energy Star homes are the way to go when purchasing a home, it's vital to understand what makes these homes truly more efficient.



Proper Sealing of the Outside Walls and Roof, Furnaces, Heat Recovery Ventilators (HRVs), Windows, Appliances, Below and Above Grade Insulation, Framing Techniques, Furnace Ducting and Return Air Systems, and Passive Solar Energy Techniques. Homeowners in the resale market can also reap the benefits of energy efficiency by incorporating some of the components into

their homes.

This week, the focus is on Passive Solar Energy Techniques.

There are many ways that the sun can be used to add heat to your home. The best homes have the back facing the south, with the areas of high use (dining/family room, kitchen) located at the rear of the house. This gives these rooms the maximum exposure to the sun. The second best orientation is to have the areas of high use facing the east.

Blinds, awnings and the home's overhangs can be used to

control the amount of sun that enters the home. In the winter, allowing lots of sun in can provide heat, and in the summer, closing the blinds or using an awning can reduce the amount of heat that is generated.

Tree can also be used to control the amount of heat that the sun generates in a home. Deciduous trees are best for homes that have windows facing the south or east. The trees will block the sun in the summer, and in the winter will lose their leaves and allow the sun to come in. Coniferous trees can be planted on the north side of the house to block the wind all year round.

Flooring can also play a role in using the sun to create heat inside the home. Ceramic tiles, for example, absorb heat from the sun and slowly release it throughout the day.

The energy from the sun can also be harnessed using solar panels. The panels take the heat from the sun and convert it to electricity. The sun's energy can generate 12 volt electricity, which can be stored in a battery. An inverter is used to



Victor Fiume, general manager of Durham Homes and past president of the Ontario Home Builders' Association (OHBA).

convert it to 110 or 220, which can be used to run appliances such as the fridge, stove, etc.

Solar collectors for hot water are also available. This uses the heat from the sun to heat (in the summer) or preheat (in the winter) the water before it is used.

Next Week: Framing Techniques