

A BANDWAGON WORTH JUMPING ON: ENERGY EFFICIENT HOMES

I'll likely be living in an apartment or a student house, but I can't help but daydream about the energy efficient homes that are becoming more and more popular.

Energy consumed by homes accounts for close to one third of the energy produced in North America, and so any reductions to this statistic can help lessen the society's ever increasing carbon footprint.

The basic components of a newly built energy efficient home are smaller size, more tightly sealed windows and doors and insulation, heating and cooling systems with a greater efficiency, and energy-efficient appliances, but older pre-existing homes can also be retrofitted to comply with more energy efficient standards. This is in an increasing trend as the federal government offers a number of financial incentives for these renovations.

So what goes into an energy efficient home?



'Green' means energy efficiency first!

First, insulation is very important, as much energy is spent on unnecessary use of heating and cooling systems. This can be avoided by installing effective insulation systems and filling any crevices within the house's insulation system which will allow for greater resistance to heat transfer.

Windows are also a susceptible component of a home. In order to minimize heat loss from windows, homeowners can choose newer, better sealed windows. They should be limited on the northern, eastern, and western sides of the house. The southern side of the house can have a greater number of windows, specifically if they will be making use of solar technologies. This can be achieved by new solar techniques that can absorb solar energy through thin plastic film. These windows on the southern side should have awnings in order to avoid the high heat of summer sunlight when cooling is required.

Air leakage is another main source of energy loss and can be avoided by techniques such as caulking and weather stripping. This leakage can be detected at entrances and a number of other locations including electrical outlets, joints between walls and ceilings, and bathroom vents.

If these guidelines are properly followed, installed heating and cooling systems can be minimal as homeowners take maximum advantage of sunlight and evening breeze for heating and cooling. The systems which are installed are normally less costly in the long run due to the lesser amount of energy of which they make use.

Intensified insulation results in well-sealed houses that may encounter problems of low indoor air quality. Heat recovery ventilators are a useful solution: they maintain high indoor air quality by collecting stale indoor air containing moistness and odours and replacing it with outdoor air to be distributed throughout the home and are thus an additional component of energy efficient homes. A preliminary study by Leech, Raizenne, and Gusdorf has found that residents of houses using heat recovery ventilators saw improvement with respect to symptoms such as fatigue, throat irritation, cough and irritability as compared to those living in regular houses. This study demonstrates that these energy efficiency improvements are advantageous not just in terms of cost savings and environmental efforts, but for human health as well.

With a well insulated house not in need of extensive heating and cooling systems, homeowners should then purchase energy efficient appliances in order to complete their energy efficient home. While these appliances such as dishwashers, washers, dryers, and fluorescent lighting may be more costly, they will be less susceptible to rising prices in energy, and are much better for the environment.

There are also a number of changes that can be made to allow homeowners to decrease their energy usage, without going through all of the renovations. Low-flow shower heads can be purchased which reduce flow by up to 60%, saving both water and the hot water bill. Programmable thermostats allow homeowners to reduce their heating and cooling costs during sleep or work hours when their benefits will not be fully recognized. It is also fairly simple for homeowners to improve roof insulation which can help reduce unwanted heat transfer.

From 2007 to 2010, Canadian government offered the eco ENERGY Retrofit program which encouraged owners of small properties to complete certain renovations that would create more comfortable living spaces and increase savings from energy costs as well as keep the environment clean. Approximately 1 in 20 homeowners in the country have chosen to participate in and benefit from this program, receiving approximately \$1300 in grant money from the government to help with these renovations.

The results for these retrofitted homes are a reduction in energy consumption by 20% and reduced greenhouse gas emissions of close to 3 tonnes per house.

Although the ecoENERGY Retrofit program is no longer in place, homeowners are still encouraged to take steps towards energy efficient homes. Even a simple act such as replacing windows or adding awnings can greatly increase energy savings and reduce the greenhouse gases produced by home appliances.

The financial benefits are not restricted to governmental programs, homeowners can also apply for discounted mortgages when they purchase an energy efficient home or make energy saving renovations. This discount is manifested in the form of reduced premiums and extended amortization periods.

There are certainly a number of benefits to these energy efficient homes and any effort to aid the increasingly polluted environment is welcomed, but still energy efficient homes are a minority among the Canadian residential real estate landscape. This can be attributed to the high installation and renovation costs of these energy saving technologies. These systems are still relatively new and are thus somewhat overpriced for the average homeowner. Also, energy efficient homes are more sensible in regions with heavy sunlight that can indeed provide for much of the heating of a home, and so not all homeowners across the country can take equal advantage of these renovations and installations.

While renovations to install energy efficient technologies may cost more initially, these efficient homes do indeed seem to be a bandwagon worth jumping on. They act as a sort of insurance against ever-rising energy prices. Whether or not homeowners choose to undergo a full renovation including ventilation, windows, insulation, and appliances, there are many ways to create a more energy efficient homes and these are options worth considering. These homes are a concrete and effective way to make better use of limited energy resources and minimize human effects on the environment, as well as promote a culture with a lesser dependence on energy.

Source: <http://www.sassweb.ca/3bb3/howto/a-bandwagon-worth-jumping-on-energy-efficient-homes>