

ENERGY EFFICIENCY AT HOME

With energy costs soaring it is well worth looking at spending a little bit now to yield great and long term savings



Since a house being built today can be expected to be occupied for 60 years or more, an energy-efficient design can yield considerable savings over its lifetime. If you are lucky enough to build a home from scratch then there are many things you can do to make the home more efficient and environmentally friendly. If you want to make an existing home more energy (and therefore cost) efficient, then talk to an established supplier about some money saving options.

Did you know?

- Energy use is responsible for two-thirds of Ireland's greenhouse gas emissions
- Irish homes use around a quarter of all energy used in the country – that's even more than industry
- The average Irish home consumes almost 40% more electricity than it did in 1990
- Renewable energy currently accounts for just 2% of Ireland's energy supply

These statistics come as no surprise to Jimmy Conlon, MD of Energy Efficient Homes Ireland. Jimmy's company supplies a wide range of products and services to help increase the energy efficiency of home and office buildings throughout Ireland. Conlon says that there are three essential items that can make a significant difference in the average home. The first is one that is perhaps already well acknowledged.

INSULATION

Levels of insulation higher than those required in the Building Regulations are in many cases economically justified. It is better to have a good overall level of insulation than, for example, a highly insulated floor with no roof insulation. Attention should be given to the avoidance of thermal bridges. These are "short circuits" across insulation, which are commonly found at lintels, jambs and sills of doors and windows and at junctions where floors and ceilings meet external walls. They give rise to increased heat loss and possible condensation problems. There are many examples of buildings performing more poorly than expected in energy terms due to poor quality workmanship in installing insulation. To achieve the level of energy efficiency predicted by the design, it is very important to ensure good quality workmanship and supervision during construction.

Jimmy explains "You will not get a second chance to make your home energy efficient as easy or as cheaply as when you are actually building it." Energy Efficient Homes provide advice on the various types of insulation available including, mineral wool, flax, hemp, sheep wool and the most environmentally friendly product on the market, spray on "cellulose" which is made from recycled shredded paper. This product also benefits from an excellent "U" value and is recommended for use in any energy efficient air tight house.



HEAT RECOVERY VENTILATION (HRV)

Jimmy’s mantra for energy efficiency and good air quality is to “Build Tight, Insulate and Ventilate Right.” Paradoxically while you need to insulate to keep heat in, adequate ventilation is essential to provide fresh air and to remove moisture, odours and pollutants. However, excessive ventilation during the heating season results in energy wastage and can also cause discomfort due to draughts. Controlled vents should be installed in every room with trickle or slot vents incorporated in window frames to ensure a reasonable amount of continuous fresh air. These vents can be opened up or closed down to a minimum as required.

If an open fire or other fuel-burning fireplace appliances are to be installed, they should have an independent air supply. This can be achieved by means of an under-floor draught or by using a room sealed appliance such as a balanced flue heater.

A balanced ventilation system involving fans, ductwork and a heat exchanger can transfer heat from warm stale outgoing air to incoming fresh air (this is called “mechanical ventilation with heat recovery”). Stale air is usually extracted from rooms such as kitchens and bathrooms and warmed fresh air supplied to living rooms and bedrooms. For such systems to work well, the house must be well sealed. Correctly sized systems can reduce ventilation heat loss considerably.

Benefits of Heat Recovery Ventilation:

1. It will save you money by reducing your energy requirements for heating by re-using the heat that would normally be lost through uncontrolled ventilation
2. Fresh filtered warm air continuously, day and night, replaces the stale air inside your home. No more unpleasant odours from smoking, cooking or bathroom.
3. HRV helps maintain healthy humidity levels throughout the home
4. Moisture build-up from bathroom and kitchen will be avoided eliminating mould growth.

SOLAR PANELS

Heating water is the second largest energy cost in most households. Solar Water Heaters can be a cost effective way to generate hot water. 1msq of Solar Panel here in Ireland is equivalent to more than 100 litres of oil per year in free solar energy. Even if the sun is not shining, a solar water heater will convert indirect sunlight as well as direct sunlight into heat.

For a full range of tips, products and energy saving ideas contact www.seai.ie and www.energyefficienthomesireland.com