You can lose up to 35% of the heat in your home through the walls and up to 25% through the roof. This means you are wasting money (up to 35% of your annual heating bill) and energy. By insulating your home you will save money on your bills and help the environment. You will also reduce the likelihood of condensation, which can damage the fabric of your property.

Doors and windows

Most houses already have double glazing and draught excluders on the bottoms of doors and across letterboxes are an easy way to save heat.

Floors

Uninsulated and draughty floors can waste up to15%. This can be reduced by:

- Fixing gappy floors and skirting boards by using a cheap tube sealant, such as silicon.
- Insulating under timber floors by fixing insulating material between the joists.
- Fitting thick carpets or insulation underlay panels beneath wood flooring on solid concrete floors.

Walls

Up to 35% of heat loss is through the walls. Most houses built between 1920 and 1980 have cavity walls. By filling the gap with an insulating material you can save on your heating bill and reduce your CO2 output by up to 750 kg a year.

In addition, cavity wall insulation can help prevent condensation build up and keep your home cooler in the summer.

Cavity wall insulation is not a cheap DIY job. You will need to call in the professionals who will charge from around £500 for an average home. However, everybody can get a grant for this bringing the cost down to about £150 (see panel on Grants).

Cavity wall insulation on existing buildings is either glass mineral wool or ‘rockwool’ made from volcanic ash.

If you don’t have cavity walls, there are options available for insulating either the façade, or internally. This can be very effective, but interior cladding will slightly reduce your internal space, and exterior cladding is very expensive and changes the outside appearance. And will not usually be permitted in a Conservation Area.

Lofts

If you have no loft insulation in your house, you could be losing as much as 15% of your heating costs through your roof. This needlessly emits nearly a tonne of CO2 annually.

For most homes, loft insulation can be a DIY job that costs only a few hundred pounds, meaning a payback period of two years. Or even less as fuel prices increase!

Thickness

Many houses already have **10cm** (4ins) of loft insulation laid between the joists, which substantially reduces heat loss.

The current recommended thickness is **27cm** (11ins). Top-up insulation should be laid across the joists. This means, however, that you will have to raise the floor if you want to use your loft as storage space

Green insulation

Not all insulation is equally green.The main issue is in the **'embodied energy'** in the insulation you buy - the energy used for procuring raw materials, the manufacture, and the transportation of your insulation.

Although all insulation will save energy, most of it is not great in terms of production and disposal. If you want a greener alternative, much less energy is needed to make, for example, the recycled paper loft insulation ***Warmcel 100***, or ***Thermafleece***, which is made from wool.

In addition, there is the issue of the safety of the manmade materials. Anyone laying conventional glass fibre loft insulation should wear a mask and protective clothing, or risk irritation to the eyes, skin and respiratory tract. While insulation made from natural products and some recycled products can be handled completely safely.

Some examples of Green Insulation

Natural products still form a tiny part of the market. Rob Street from Natural Insulations – a supplier of natural insulation (www.naturalinsulations.co.uk) says:

"Sheep's wool insulation is still seen as a specialised market. Our main business comes from timber framed buildings and barn conversions, old buildings that need to be able to take in and release moisture."

Natural insulation

Not usually a cheap option. *Thermafleece*, made from wool, and *Isonat*, made from hemp and recycled cotton, are around three times the price of conventional insulation. On the other hand, natural insulation has many advantages, such as low embodied energy, safe to use, can be used in all applications and increased thermal efficiency.

Recycled insulation

Warmcell 100, made from recycled paper, is comparable to the price of glass fibre, and is 10% more thermo efficient. It can be used in loft and timber floors and some walls.

Another option which is roughly the same price as fibreglass is *Ecowool* or *NON-ITCH* made from recycled plastic bottles (85%). It is available from Natural Insulations and many large DIY stores.

There are many other types of both natural and recycled insulation on the market.

Grants are available for some types of loft insulation (see panel on Grants).