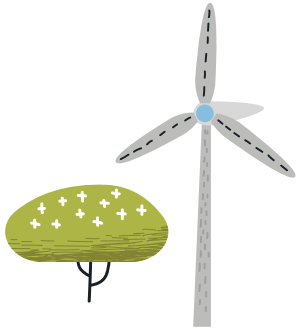
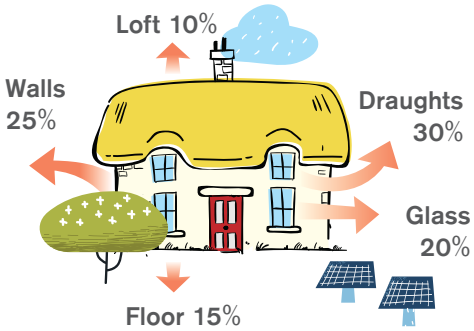
CARBON SAVERS
Bite Size Course Handout
Module 2 Home Energy

Home Energy



Insulation saves the most on home energy, and there are also easy wins to save electricity

Heat Loss Before Insulation



There are two steps to saving energy and cutting CO_2 in our homes.

1. Stop most of the heat leaking out

2. Switch to a clean energy source

Keep heat in with insulation

A good duvet keeps you warm in winter, even with the window open. Insulation does the same thing, it acts like a duvet over your home, keeping most of the heat in.

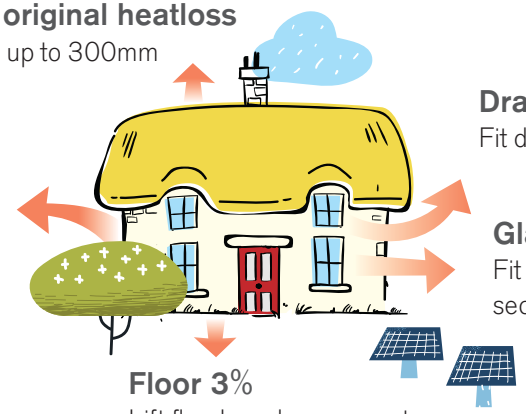
A house with 300mm of insulation on all surfaces needs no heating at all, unless it freezes outside. Un-insulated older homes use around five times more energy than modern homes, but they can be 'retro-fitted' with insulation.

Insulation makes you warm, saves CO_2 and saves you money, offering up to 10% return on investment per year (like getting 10% interest on your savings.) Cold, damp homes can cause respiratory and other health problems. So as well as doing your bit for the climate insulating your home is good for your health, happiness and pocket.

Heat Loss After Insulation – 75% of heat saved

Loft 3% of original heatloss
Lay insulation up to 300mm

Walls 4%
Fit internal or external wall insulation



Draughts 9%
Fit draught proofing

Glass 6%
Fit double, triple or secondary glazing

Floor 3%
Lift floorboards or excavate and fit underfloor insulation

How to insulate your home

1 Start with the easier and cheaper ways, like loft insulation, draught-proofing, and secondary or double glazing. This can save 40 - 50% of heat loss.

2 Wall and floor insulation are more costly and the last two areas to consider. But with these fitted old homes can save up to 80% of heat loss, which means heating bills cut to just 20%.

3 Loft insulation requires careful pipe-lagging to avoid burst pipes; this is because an insulated loft is no longer kept warm by heat coming up from the rooms below.

4 Good draught-proofing will keep you warm, but once fitted you need to keep your home ventilated by opening windows regularly on nice days - or you can fit mechanical ventilation.

5 For most homes, external wall insulation is better than internal as it avoids the risk of trapping condensation between the wall and insulation material.

6 Hung floors can be lifted and insulation placed under floorboards. Solid floors can be excavated, fitted with a damp-proof course and insulated before replacing floorboards.

7 Even if your home is listed it can be insulated. Advanced secondary glazing allows your windows to open as usual and is virtually invisible. External wall insulation can be approved for rendered walls, otherwise fit internal wall insulation. Check plans with your conservation officer.

8 Once you've insulated, air or ground source heat pumps are the most cost effective low carbon heaters because they give you 3kWh of heat for every 1kWh of electricity.

Easy Wins

- Save £100s this winter with a heated throw - at 1p an hour vs. 70p for an electric heater you'll be toasty warm at your desk or sofa - and you won't get drowsy!
- A hot water bottle on your lap costs around 3p and can keep you warm for hours.
- Replace halogen lights with LEDs that use 1/10th of the energy, especially in rooms with lights on for hours.
- Buy A-star rated appliances, especially the fridge as this is on 24/7 so uses lots of energy.
- A pressure cooker takes 1/5th of the cooking time, and cooking in batches saves energy and time. If you turn on the oven - cook lots!
- Ethical Consumer and Which? can help you find the longest lasting brands (not always the most expensive!)
- Turning your heating down by 1 degree saves a lot of energy and money.
- Pure wool clothes are often warmest for the price, need least washing and return to the soil at end of life.