ALL WRAPPED UP FOR WINTER

Renowned low-carbon lifestyle and energy saving expert **Mukti Mitchell**, who lives in Bristol, shares advice for keeping your period house warm

While the UK has been enjoying a mild winter so far, the weather will be getting much colder from January to March, so it's a great time to think about making your home warm and cosy for the winter weeks ahead.

"In the UK, the price of heating fuels has risen 10% a year for the last decade and it now costs over £1,500 to keep our homes warm," Mitchell reveals. "We pump hot water into our radiators all winter while the heat floods out through the windows, walls and roofs. Twenty-seven million homes at £1,500 means that us Brits are spending £40bn a year, heating the planet directly!

"By dramatically reducing fuel bills, home insulation represents a phenomenal investment opportunity. You'd be lucky to get a 5% return on your investment from £5,000 in savings or stocks and shares – but if you re-invest this insulating your home, the money saved on heating can yield a return of 10–25% per year."

All the measures below are like wrapping your home in a big duvet, keeping heat inside the house.

1 Have **radiator enhancers** fitted behind your radiators. These heat-reflective panels stop heat going into the walls and reflect it into the room where you want it. They are estimated to save 7% on heating.

2 **Seal up the gaps in your floorboards and skirtings.** A long-term solution using marine deck caulking, which is completely unnoticeable.

3 **Fit thermal lining to your curtains.** The speed of heatloss, called a 'u-value', is 5.5 for single glazing, 1.8 for double or secondary glazing and just 1.0 with lined curtains – so curtains save half the heat loss.

4 **Draught-proof your doors and windows**, which lose 30% of household heat. Old properties do need ventilation though, so only treat doors and windows with noticeable draughts.

5 **Top up your loft insulation to 300mm** (12in) thickness. Rockwool is the cheapest, however, Thermafleece sheep wool insulation is more efficient, lasts far longer and supports British farmers. Typical lofts lose 10% of a home's heat; this is reduced to just 3% after a top-up.

6 **Double or secondary glazing** can save 70% of heat lost through windows. Rotten windows can be replaced with double glazing, but for beautiful good-conditioned windows, secondary glazing offers nearly the same efficiency, better sound proofing and preserves their character. 'Advanced secondary glazing' comprises Plexiglas fitted to existing sashes, which is more thermally efficient and virtually invisible.

7 If your bedroom ceilings have a sloping part this is usually because plasterboard has been fitted allowing cold external air to circulate above to ventilate the rafters, which can lose a phenomenal amount of heat. To prevent this, insulation boards can be fitted on the inside and re-plastered. Called 'Room-In-Roof' insulation, this is expensive but makes a big difference to warmth in the room.

8 **External wall insulation (EWI).** Ideal for rendered or slate hung walls, EWI consists of insulation boards such as Celotex (synthetic) or Diffutherm (wood fibre board) glued to the external walls, covered with wire mesh and re-rendered. EWI has no risk of condensation being trapped behind it, protects the wall, and reduces its u-value from 2.0 to as low as 0.2, majorly affecting warmth. Costs start from £10,000 for one dwelling.

9 **Internal Wall Insulation (IWI).** If you can't fit external wall insulation because your home is listed, or has stone walls you don't want to render, internal wall insulation can be highly effective. The technique is similar to EWI, and insulation boards are glued to internal walls and covered with plasterboard.

10 The last measure is **floor insulation**. If you have cellars you're lucky because insulation can easily be fitted up between the ceiling joists and covered with netting or boarding. Otherwise floorboards need to be taken up and insulation fitted below. Solid floors can be excavated and insulation put below new floorboards.

About Mukti Mitchell

Mukti Mitchell is Director of CosyHome Company, winner of the CIOB Southwest Sustainability Award (2011), recognised for its pioneering secondary glazing and insulation systems for period houses and substantial contribution towards making Britain's buildings more sustainable (www.cosyhomecompany.co.uk). Mitchell famously built and sailed an award-winning eco micro yacht around Britain in 2007 endorsed by The Prince of Wales and the Prime Minister, and his 45 talks along the way, extolling the benefits of low-carbon lifestyles, reached an audience of 10 million.