

Insulation and draught proofing

MEA factsheet #1f



Insulation, insulation, insulation

Domestic heating currently accounts for 25% of UK energy use; we use so much energy for heating because many British houses have little or no insulation, are draughty and lack basic energy efficiency technologies. Cold damp homes cause excess winter mortality, particularly among the elderly, and living in a cold house greatly increases the risk of contracting a serious illness.

Installing better insulation will address these problems and is the most effective way to improve domestic energy efficiency and raise the standard of UK housing. As well as reducing the carbon emissions from domestic energy use, better insulated homes would save money – especially as fuel prices keep going up.

There are many easy and inexpensive ways to improve the energy efficiency of your home and under the CERT grants scheme almost anyone can get help towards the cost of some of the most effective methods including cavity wall and loft insulation.

Insulating and draught proofing products

The table below outlines the main ways homes or other buildings can be adapted to keep warm more easily. It also gives some of the latest cost breakdowns, information about payback periods and yearly carbon dioxide (CO₂) savings. More detail is given in the text below and overleaf.

| Measure | Annual Saving | Installed cost | Payback period (years) | Yearly CO ₂ saving |
|--|---------------|--------------------------------|---------------------------------------|-------------------------------|
| Cavity wall insulation | £115 | £500 | 4 years | 610kg |
| External wall insulation | £400 | £10500 - £14500 | 26 years | 2100kg |
| Internal Wall insulation | £380 | £5500 - £8500 | 15 years | 2000kg |
| Floor insulation | £50 | £100 (DIY) | 2 years | 270kg |
| Filling gaps between floor and skirting board | £20 | £20 | 1 year | 110kg |
| Loft insulation (full installation of 270mm) | £110 | £250 | 2 years | 800kg |
| Loft insulation (top up installation from existing 50mm to deeper 270mm) | £30 | £500 (installed) £200 (DIY) | 16 years (installed) 6 years (DIY) | 230kg |
| Draught Proofing | £20 | £200 (installed) £90 (DIY) | 10 years (installed) 5 years (DIY) | up to 155kg |
| Hot water tank jacket | £35 | £12 (DIY) | 6 months | 190kg |
| Primary pipe insulation | £10 | £10 (DIY) | 1 year | 60kg |
| Double glazing | about £90 | Varies | Varies | 740kg |

These costs and payback periods do not take into account grants that may be available under the CERT scheme. Also, with fuel costs expected to rise dramatically over the next few years, annual savings and payback periods will become more favourable.

Insulating walls

Houses lose most heat through the walls and the roof, so this is where to prioritise insulating the home. Insulating the walls and the loft can save about 2 tonnes of CO₂ and reduce annual heating bills by £200. The environmental impact of the home can be reduced still further by using environmentally friendly insulation materials instead of the traditional fibreglass. These alternatives include sheep's wool, shredded recycled newspaper, hemp and flax.

Most homes built since the 1920's have cavity walls, with an air gap between two layers of brick. By insulating this space, heating bills

(and CO₂ emissions) could be reduced by 15%. Uninsulated homes with solid walls, such as Victorian terraced houses, lose even more heat through the walls than uninsulated cavity walled



houses. The solution is solid wall insulation. This comes in a variety of types; flexible thermal lining or rigid board for internal fitting, or cladding and render for external application. Solid wall insulation is more expensive to install than cavity wall insulation, but delivers greater savings and shorter payback periods.

Insulating floors

The next step is to install floor insulation, and fill any cracks between floorboards and round the skirting boards. For homes with wooden floors, insulation can be installed by taking up the floorboards and laying insulation which is supported by netting.

Insulating hot water system

A simple but effective way to reduce waste heat is to insulate hot water pipes and fit a jacket to the hot water tank. The jacket should be at least 75mm thick. This will cut heat loss from the tank by 75%, and typically will pay for itself in reduced heating bills within 6 months. Pipe insulation is easy to install as a DIY job if the pipes are accessible. Professional help may be required to fit insulation where access to the pipes is awkward.

Windows and Doors

Single glazed windows are a significant cause of heat loss, and although it is fairly expensive to install double glazing, this can halve the amount of heat lost from windows, and save nearly £100 per year on heating bills. Costs can be reduced by only fitting double glazing in the rooms which are used and heated most regularly, such as the living room.



A more affordable option for reducing heat loss through windows (and doors) is to fit heavy curtains. Choose lined curtains to achieve an even better insulating effect. Hang curtains close to the window recess to increase effectiveness as a barrier to heat loss.

Draught proofing is another way to reduce heat loss through doors and windows and it is an easy DIY job to get it fitted. There are a range of products available, from foams and sealants to brushes, rubber strips and shaped plastic.

Further Advice and Grants

A wide range of grants and discounts is available from the government, utility companies and local contractors. Action Heat, MEA's own affordable warmth team, has up to date information on these. Other help may be available depending on a number of factors including your circumstances, existing insulation, type and age of property and where you live. Contact your energy supplier or the Energy Saving Trust (see below).

Further information

Action Heat

01743 277123 actionheat.org

Check for latest offers.

Energy Saving Trust

0800 512012 energysavingtrust.org.uk

Includes online database of grants and discounts.

Updated June 2010

www.mea.org.uk
info@mea.org.uk

marches
energy agency 

Marches Energy Agency is a registered charity, number 1070942