HOMEOWNER

Cut your energy costs

A homeowner's guide to
energy performance improvements

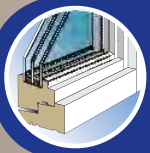
refurbishing living spaces

energy saving trust®

Energy saving benefits whe

Lighting Save 3%

Take the opportunity to install the latest lighting technology to suit your needs, tastes and tasks. See page 5.

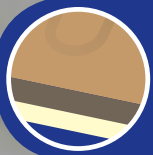


Doors and windows Save 4%

A lot of unwanted draughts occur around doors and windows. Updating as well as draught proofing will significantly reduce heat loss. See page 6.

Draught proofing Save 5%

Ensure all gaps are filled where cold air can enter, especially around water and waste pipes. See page 4.



Floor Save 5%

Up to 15% of heat can be lost through the floor. If you're reflooring, get the best level of insulation possible. See page 4.

Assumptions: % savings are the maximum savings that can be achieved. Savings are based on the fuel bill saving for a single living space, not the whole house. All figures are based on a 3-bed semi-detached house.

en refurbishing living spaces

It is financially beneficial to consider energy performance at the same time as you are carrying out home improvements. It also prevents further disruptions following the refurbishment. This guide focuses on living spaces such as lounge, dining room and bedrooms. You may notice some rooms are colder than others, or susceptible to unwanted draughts. This makes it very difficult to maintain temperatures in the winter. The measures highlighted in this guide will save you money on your bills, help reduce the carbon emissions of your home and improve its quality and comfort.

Walls Save 15%

Typically up to 35% of heat is lost through walls. Internal wall insulation can be fitted to the inside face of external walls. This also minimises the need for re-plastering. See page 6.

Products

For all your electronic needs there are energy efficient options, including TVs, computers, radios and set top boxes. The Energy Saving Trust Recommended scheme tells you which ones are the most efficient. See page 5.

Overall carbon savings Save 31%

Your total carbon emissions could decrease by up to 4% for bedrooms and up to 14% for living room or dining room respectively.

Overall savings Save 29%

The savings from installing all these measures will vary depending on the shape and size of your rooms. They could be approximately £102 per year for a typical mid-terrace house and around £218 for a typical detached house.

Add energy efficient measure

Draught proofing

This is one of the cheapest and most efficient ways you can save energy. You may be aware of cold areas or rooms in your home and draught proofing is an easy way to help tackle them.

It's important to minimise unnecessary heat loss from draughts coming in through floors, walls, around service pipes and cables, and around windows and doors. Once work has been completed, it is difficult and inconvenient to tackle unwanted draughts - so ensure your builder is blocking even the smallest of gaps.

At the same time, you must maintain the right levels of ventilation in the home, especially if you have rooms with open fires or open flues. Discuss arrangements that best suit your home with your builder.

Floor

Few people consider the option of floor insulation - even though it is an ideal opportunity to prevent your feet getting cold in winter.

About 15% of a home's heat loss is through the floor. If your living area is on the ground floor, or above a garage it is definitely worth considering. It can make a huge impact, eliminating draughts and heat loss which can occur between the floor timbers and around the edges of the floor.

Depending on what work you are having done, Building Regulations may require you to make changes. For example, where more than 50% of the floor is undergoing significant work (e.g. replacement of timber floor boards, or relaying solid floor surfaces), Building Regulations require that it is rebuilt to achieve a specified level of thermal performance. This requirement however, is not triggered by work on cosmetic finishes, e.g. laying carpets.

How easy is it to insulate the floor?

If you have a timber floor, the most efficient option is for your builder to lift floorboards and install insulation between the floor joists. This also gives your builder the opportunity to repair any damaged or creaky timbers. However, if this option is not possible, you should insulate gaps in the floorboards and around the perimeter.

Floorboards and skirting boards often contract, expand or move slightly with everyday use, so a filler that can tolerate movement should be used, such as a silicon-based filler. Fillers block gaps permanently, so once applied, excess should be wiped off with a damp cloth before it dries. Fillers may break down over time, but can easily be reapplied.

If you have a solid floor, insulated floorboards are laid on top of your existing floor, slightly raising the floor level. If you're having more extensive work carried out, the top layer of the floor can be removed and insulation added to preserve the existing floor level.

es as you improve your home

Lighting

Your lighting needs will vary from room to room. For example, your lighting needs in your dining room or lounge will be very different for your bedroom. The advice is to opt for low energy lighting.

Low energy compact fluorescent lights (CFLs) save power, whilst performing as well as traditional bulbs. High-powered LEDs are now widely available, have improved dramatically in recent years, and are particularly suited to task lighting and spotlights.

If you intend to install new lighting, Building Regulations require 75% of all bulbs to be low energy.

Recommended products

There are now many energy efficient products on the market. But the best of the best are those which carry the Energy Saving Trust Recommended logo – your assurance that these products meet the strictest criteria and deliver the biggest energy savings. Look for the logo on a wide range of products including:

- Light fittings and bulbs
- Insulation materials
- Windows
- Consumer electronics
- Computing
- Smart meters

Walls

Up to 35% of heat escapes through walls – so adding insulation will be a big factor in making your home much more cosy. Internal walls can be insulated on a room-by-room basis.

You should be aware that 2010 Building Regulations may require you to upgrade your insulation if old plaster needs removing, or if dry lining is being applied. Find out more from your builder or local building control.

What materials will be used?

It comes down to cost and space. As technology improves, the range of insulation materials is increasing. Because insulation only needs to be fixed to the inside face of the external walls, it will take up a small amount of room space.

Anything else?

If your home was built after 1920, the chances are it has cavity walls made of two layers with a small gap between them. They can easily be filled with insulation.

If your cavities have not already been filled, you may be able to treat the whole house for around £250 and save up to £110 per year on heating bills. There could be financial help available. For information on grants see energysavingtrust.org.uk/gid

Houses with solid walls have no gap. So even more heat escapes than through cavity walls. External wall insulation and/or internal wall insulation can be applied to the whole house but the total cost is higher than for a house with cavity walls.

Doors and windows

Here is a major source of heat loss. You may choose to replace your windows or doors because they need updating. However, if you are having more extensive work done, you may be required to replace them to meet certain specifications set down by 2010 Building Regulations.

What are the best windows available?

Options include replacement double or triple glazing, and secondary double glazing. As well as cutting draughts and condensation, outside noise can be reduced – and the overall appearance of your room will be enhanced.

Your builder should be able to advise on your individual situation. If you want to do some research, the British Fenestration Rating Council is a good place to start www.bfrc.org

Just like appliances and houses, windows are rated on an A to G scale. C-rated windows are now a minimum requirement in Building Regulations, but windows with a higher rating will perform even better.

And doors?

New doors now feature insulated cores for additional insulation. There are security benefits too – look for 'Secured by Design' doors and windows to ensure your house remains safe.

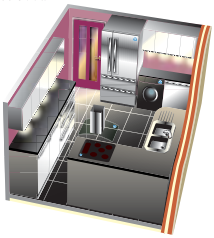
Steps to an energy efficient home

The information in this guide may have already prompted you to consider various energy efficient measures to have done when you are refurbishing living spaces such as your lounge, dining room and bedrooms. Of course, you will need to factor additional costs into your budget. However, by adding measures at the same time other work is being done allows you to future proof your home against energy price increases.

Adding energy efficient measures as you refurbish each room will increase its overall efficiency – making it more comfortable and gradually reducing your energy bills. In addition, you will also improve the overall EPC rating of your home, making it more attractive to a future buyer. Guides for the bathroom and kitchen will help you achieve this. Other guides in the pipeline include loft conversions, and heating and hot water systems.

The bathroom guide will help you plan refurbishment work to your bathroom. It will provide information associated with water consumption and factors that need to be considered when replacing showers, baths, taps, and WCs.

The kitchen guide will help you plan your refurbishment work. If you are replacing units, it is the best opportunity to install internal wall insulation before the units are fixed. It will also give you advice on other measures such as lighting, water and of course appliances.



Useful sources of information

Energy Saving Trust advisers can help you with grants and offers available in your area, as well as providing a wide range of advice. See back page for more information. Other useful sources include:

- Find a Builder or tradesperson through the Federation of Master Builders. fmb.org.uk/fab
- The Planning Portal is the UK Government's online planning and building regulations resource for England and Wales. planningportal.gov.uk
- Be inspired by Old Home SuperHome, a network of existing homes that have undergone an energy-efficiency retrofit. sustainable-energyacademy.org.uk

Rooms for improvement

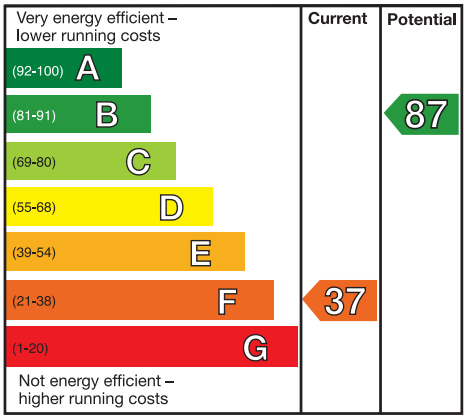
This illustration gives you an idea of what can be achieved throughout your whole house if you were to make energy efficiency improvements in every room.

The measures outlined in this guide show the maximum cost savings. All recommended measures need be installed to achieve these savings but attention to detail is vital to attaining maximum performance.

* Loft conversions
** Heating and hot water system

Assumptions: % savings are the maximum £ savings that can be achieved.
All figures are based on a 3-bed semi-detached house.

The energy performance of your home



Many of the homes in the UK are old and inefficient. This means wasted energy and high fuel bills. Our homes also contribute to around 25% of the UK's carbon dioxide emissions.

To help homeowners understand the energy efficiency of their homes, and the impact on the environment, Energy Performance Certificates (EPCs) were developed.

The EPC provides an energy efficiency rating for the home on an A to G scale, just like the rating you find on fridges and other household appliances. The most energy efficient home will have an A rating, with the least efficient having a rating of G.

A qualified energy assessor will carry out an inspection of your home and creates the EPC, which will show the rating for your home and some recommendations.

There is a legal requirement to have an EPC when selling a property, even though Home Information Packs are no longer required.

A poor EPC may start to affect the value of properties, so it is worth considering taking steps to make even small improvements.

How will upgrading my living spaces help my EPC?

Although the EPC rating is based on the whole property, a lot of energy is used in all the living spaces combined. Carrying out all or some of the recommendations in this guide could help improve the overall energy rating for the home. In certain circumstances, a change from one band to another is possible. For example, moving from an EPC band E to an EPC band D.

The Energy Saving Trust provides free and impartial advice on how to stop wasting energy. Our advisors can help you with grants and offers available in your area, as well as providing a wide range of advice.

Freephone helpline: 0800 512 012

Grants and offers database: energysavingtrust.org.uk/gid

Compare products at
energysavingtrust.org.uk/Recommended

Guides for builders

There is an accompanying guide for builders that contains more detailed information on achieving the measures set out in this guide. The full series will also be developed for the builder.

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promoting low carbon refurbishment

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Assumptions: any costs and savings in this guide are based on a 3-bed semi-detached house. All savings are the maximum that can be achieved and relies all recommended measures installed, and attention to detail is vital.