



The Renewable Energy Centre A Guide to Energy Saving in the Home

The Renewable Energy Centre has compiled this Energy Pack as an introduction to Home Energy Saving and includes:

- Helpful tips to start saving money today
- Key areas for home improvements
- An introduction to generating your own electricity
- Information on grants and funding
- Useful websites
- Places to visit



Facts & Figures

- Around a quarter of the UK's carbon dioxide emissions come from UK homes, amounting to over 40 million tonnes each year
- The average household emits around 6 tonnes of carbon dioxide every year, which could easily be reduced by around two tonnes, through improved energy efficiency
- The average household spends £445 on energy each year, over 50% more than an energy efficient home. This amounts to over £5 billion of energy wasted annually
- By 2010, consumer electronics will be the biggest single user of domestic electricity, overtaking the areas of lighting and cold appliances such as fridges and freezers
- UK emissions of CO₂ currently account for about 2% of the global total
- At present, renewable energy provides only 2.7% of UK electricity and less than 1% of overall energy use

Carbon dioxide is the main gas contributing to climate change and the level of emissions will only rise if we continue to live as we do. The likely consequential effects of global warming are serious, including rising sea levels and extreme weather conditions such as flooding and drought.



As a homeowner, you have a significant part to play in the fight against global warming so reducing your energy use and wastage is one of the most important things you can do. Time and effort invested in making your home more energy efficient will considerably reduce your carbon output and can also lead to significant savings on your utility bills.

The Renewable Energy Centre

www.therenewableenergycentre.co.uk is a website designed for homeowners who want to save money on their utility bills, and provides a practical and easy to understand introduction to the main areas of renewable energy, advice on installation and a directory 1,000's of specialist suppliers and contractors throughout the UK.

Further information on The Renewable Energy Centre Website includes:

- Directory of Energy Efficiency Advice Centres (EEACs) throughout the UK
- Links to self help and community organisations
- Index of government departments and initiatives
- Sources of grants and funding for businesses and homeowners
- A section dedicated to educational resources for schools and colleges



Start Saving Money Today - Low Cost Simple Tips

In this section The Renewable Energy Centre has put together the easiest and most effective tips to enable you to start saving energy around the home and cut as much as £200 per year off your utility bills.

Laundry

- Washing your laundry at 30°C can save you 40% of the electricity used to wash at 40°C
- Always wash a full load as this will use less water than two half loads
- Use the tumble dryer as little as possible by drying clothes outside or place on a clothes rail in an unheated room

Lighting

- Lighting accounts for 15% of a typical UK household electricity bill so always switch off the light before you leave a room
- An energy saving light bulb uses 20% of the energy of a traditional light bulb, lasts 12 times longer and will cut £7 off your annual electricity bill



Draught Proofing

- In a typical home around 20% of heat is wasted through draughts around window and door frames. Fitting draught excluders such as adhesives, sealants or brushes could save you around £20 a year on heating bills
- Secondary glazing using polythene sheeting will also help to reduce draughts and heat loss

Heating

- Turning the thermostat down by 1°C will cut heating bills by 10% and save around £30 per year
- Fit a timer switch on your thermostat so heating and hot water are only switched on when needed
- Fitting boards covered with aluminium behind your radiators to cut down on the amount of heat lost through the back

Fridges & Freezers

- Defrost fridges and freezers regularly as when they are filled with frost they have to work harder to stay cold
- Try not to open the fridge more than necessary; for every minute a fridge door is open it takes three minutes of electricity use for the fridge to cool back down
- Do not put hot food straight in the fridge or freezer as it will have to use extra energy to cool down to its optimum temperature

Showers

- Take a 5 minute shower instead of a bath and cut your water bill by up to £50 per year
- Fit a new reduced flow showerhead which will cost you around £20 but can reduce water consumption by up to 50% for each shower

Toilets

- A water saving device such as the Savaflush fitted into your toilet cistern will cut down the water used by up to 3 litres a flush
- Apply for a Free Water Saving Device by visiting the offers section at The Renewable Energy Centre www.therenewableenergycentre.co.uk/home-energy-saving

Rainwater

- Use a water butt to collect rainwater which falls on the roof or garden, store it and then use it to water the garden or wash the car when needed. They cost around £20

Boiler

- Fit a British Standard insulating jacket for your hot water tank. They are around 7.5cm thick, cost around £10 and can cut bills by up to £15 a year

Kettles

- Only boil as much water as you need and you could reduce your electricity bill up to £30 per year



Switch off all Appliances

- Save £11 annually by switching off all appliances instead of leaving them on standby

For more information on Home Energy Saving visit www.therenewableenergycentre.co.uk

Improvements for Inside and Out of the Home

Before you invest in a micro-generation system to generate renewable energy for your home, it is important that you first consider the key areas of energy efficiency. The following improvements may require a small financial investment but will considerably increase the energy efficiency of your home and will cut your utility bills.

Cavity Wall Insulation

Energy Inefficiency: Up to 33% of heat is lost through exterior walls

Cost: Around £300 (including installation)

Saving: Up to £160 per year

Installation: Qualified tradesman

Loft Insulation

Energy Inefficiency: Up to 25% of heat is lost through the loft

Cost: Around £240 (including installation)

Saving: Up to £180 per year

Installation: Qualified tradesman or DIY

Double Glazing

Energy Inefficiency: Up to 20% of heat is lost through the single glazed windows

Cost: Around £3000 (including installation)

Saving: Up to £100 per year

Installation: Qualified tradesman

Boiler System

Energy Inefficiency: Traditional boilers account for approximately 60% of a typical home's Carbon Dioxide emissions

Cost: Around £2,500 (including installation)

Saving: Up to £180 per year

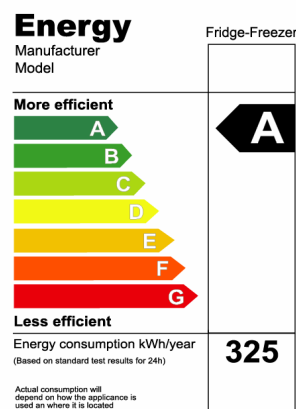
Installation: Qualified tradesman is recommended

Rainwater Harvesting

Cost: Between £2,000 - £3,000 (including installation)

Saving: Up to £180 per year

Installation: Qualified tradesman is recommended



Energy Rated Appliances

Electricity used by appliances account for around a third of the average utility bill in UK, so when purchasing a new appliance such as a fridge, washing machine or television ensure you look for products with the Energy Saving Recommended logo. These products are classified according to various factors including their energy consumption.

For more information on Home Energy Efficiency visit www.therenewableenergycentre.co.uk

Generate your own Energy

Micro-generation installation such as solar panels, wind turbines, and biomass heaters can provide effective alternatives to fossil fuels and these sources of renewable energy will help to reduce the carbon dioxide output of your home as well as cut your utility bills.



Ground Source Heating

Cost: Between £6,500 and £9,500 (including professional installation)

Saving: £650 - £750 per year

Installation: Professional

Solar Heating

Cost: Between £2,000 and £5,000 (including professional installation)

Saving: Between £20 - £120 per year

Installation: Professional Recommended

Combined Heat & Power

Cost: Around £3,000 (including professional installation)

Saving: Up to £150 a year

Installation: Professional Recommended

Wind Turbines

Cost: Around £2,500 (including professional installation)

Saving: Variable

Installation: Professional Recommended

Biomass and Wood Burning Stoves

Cost: Up to £11,000 for a central heating system (including professional installation)

Saving: Around £350 per year

Installation: Professional Recommended



For more information on Renewable Technology visit www.therenewableenergycentre.co.uk

Grants & Funding

Some of the improvement and installations needed to make your home more energy efficient may seem expensive but many homeowners may be eligible for a grant or funding. Grants in the UK come from three main sources; the Government, Local Authorities and Energy Suppliers.

Government - Low Carbon Buildings Programme

The Government's Low Carbon Building Programme will provide a grant of up to £400 for a micro-generation installation including Combined Heat & Power systems, Wind Turbines, Ground Source Heat pumps and Solar Hot Water Systems.



Grants are only awarded on the basis that you have demonstrated you are not wasting energy elsewhere, so before you apply for a grant you are advised to implement the home energy improvements suggested in the sections above.

For more information and to apply for a Low Carbon Buildings grant visit www.therenewableenergycentre.co.uk/grants

Your Energy Supplier

Energy suppliers are obliged to help achieve targets for improving home energy efficiency and will provide a range of offers that reduce the cost of installing energy efficiency measures. This will usually include loft and cavity insulation.

You can contact both gas or electricity suppliers to find out what offers are available and it does not need to be the company that supplies energy to your home.

Local Authority

Many local authorities operate grants and schemes throughout the year for a wide variety of energy saving measures from low energy light bulbs to solar heating.

Contact your local council for more information and to see if you are eligible for a grant.

For further information advice on which grants you might be entitled to, find your local Energy Efficiency Advice Centre by visiting www.therenewableenergycentre.co.uk and click on the EEAC section.

To search for available Grants and Funding visit www.therenewableenergycentre.co.uk

Places to Visit

Centre for Alternative Technology (CAT) - www.cat.org.uk

Machynlleth, Mid Wales

Open 7 days a week, all year round

Adults £8, Children £4 and Senior/Student £7



The Centre for Alternative Technology (CAT) is an eco-centre in Wales dedicated to demonstrating and teaching sustainable development concentrating on alternative technology as well as general environmentalism. CAT is open to the general public and suitable for any age. As well as the visitor centre they hold residential courses and publish research on organic farming, gardening, and ecologically-friendly living.

EcoTech Centre - www.ecotech.org.uk

Swaffham, Norfolk

Free General Admission - Turbine Tour is £5 for adults & £3 for children

The Ecotech Centre is an environmental education centre based on sustainability, which also includes two wind turbines, and is known to be one of the most significant wind projects in the UK. The centre caters for a wide variety of organisations including schools, home education groups, clubs and professional associations and visits can be tailored to take into account the needs of your group.

The Alternative Technology Centre - www.alternativetechnology.org.uk

Hebden Bridge, West Yorkshire

Open 7 days a week all year round

Free Admission

The Alternative Technology Centre is a not-for-profit educational resource centre which was established in 1999. The visitor centre is open to the public seven days a week and includes an energy room with interactive models of renewable energy technologies, the world's smallest plastic recycling factory, workshops, information and exhibitions.

Useful Websites

Below are a number of interesting websites where you can find further information on renewable energy and saving energy around your home.

www.therenewableenergycentre.co.uk

A practical and easy to understand introduction to the main areas of renewable energy, advice on installation and a directory of 1,000's of specialist suppliers and contractors throughout the UK

www.direct.gov.uk/en/environmentandgreenerliving

An easy to use calculator to estimate the total carbon emissions from your home, your appliances and your annual travel



www.energysavingtrust.org.uk

Information and advice on how you can be more energy efficient in your home, from insulation to energy saving appliances and other household goods

www.biggreenswitch.co.uk

Green living information including energy saving tips, recycling advice, money saving ideas, waste reduction, water saving and clean transport tips

www.greenbuildingforum.co.uk

This forum is used by green building professionals, architects, builders, developers and building owners to discuss all subjects related to green issues

www.nef.org.uk

The National Energy Foundation is an educational charity encouraging the development of renewable energy and energy efficiency with news, events and links

www.energysavingsecrets.co.uk

A reference point for consumers on saving money and the environment, including features and articles written by professionals, journalists and experts