Durham County Council

How to lower your energy bills

Helping you

save money on your fuel bills

There are many benefits to being energy efficient, ranging from having a warmer home and lower fuel bills to helping protect the environment by reducing greenhouse emissions.
Durham County Council's Warm Homes Campaign aims to help residents with all of these important issues.

help reduce global warming

Meet Big Bill and Little Bill

who are here to help you save energy in your home and cut your fuel bills. Big Bill has his top 20 tips starting on page17.

Go on have a look!

Are you doing your bit to save energy?

This booklet offers a host of energy-saving tips, as well as explaining where you can find more help, advice and money-saving offers.

How big is the carbon footprint of your house?

Every household in the UK creates around six tonnes of carbon dioxide every year – enough to fill one large hot air balloon.

This is about the same as 5,000 party balloons.

The picture of the house opposite shows where most of the energy is lost in your home.

Cavity wall insulation: CWI can reduce heat loss by up to 60%.

Windows and doors: Double glazing – Fit Energy Saving Recommended double glazing and you can save up to £170 a year.

Doors and floors: Draft proofing – Save around £30 a year by draught proofing your windows, doors and letterboxes.

Loft insulation: Installing 270mm (10 inches) of loft insulation can save up to 15% of your heating costs.

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Electrical goods

Look for the Energy Saving Recommended logo

If you're shopping for a new dishwasher, boiler or even just light bulbs, always look for the Energy Saving Recommended logo. It's your guarantee that these products are energy efficient, will cost less to run and help reduce carbon emissions.

The Energy Saving Recommended scheme is run by the Energy Saving Trusts and only products that meet strict criteria on energy efficiency can carry the logo.

For example, for fridges the Energy Saving Trust endorse A+ which are more energy efficient than A rated products and the washing machines on our scheme must be AAA - that's A for energy, A for wash quality and A for spin.

The criteria is set by an independent panel and reviewed annually. In addition they test a percentage of the products so you can rest assured that where there's a logo there's a smarter choice.

The Energy Saving Trust also endorse products in categories where there isn't a statutory EU energy label for example glazing, Televisions with integrated digital decoders (IDTVs) and boilers.

They aim to make it easy. The idea is that whatever the product, whichever the labelling system - all you need to do is look for the Energy Saving Recommended logo.

Only products that meet or exceed the energy efficiency criteria set by the Energy Saving Trust and backed by Government can use the Energy Efficient Recommended logo.

The logo appears on a wide and continually growing range of products including energy saving lightbulbs and light fittings, refrigeration, laundry and dishwashing appliances, gas boilers, and heating controls.
For an up-to-date list of Energy Efficiency Recommended products visit
www.energysavingtrust.org.uk

Remember that although energy efficient appliances may cost a little more to buy, they cost less to run. They will almost always work out cheaper over their lifetime. Also, using less energy reduces carbon dioxide emissions, helping to combat climate change.

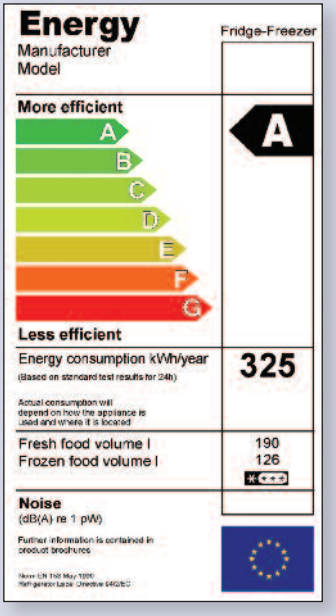
Remember! Whenever you buy household appliances, look for the Energy Saving Recommended logo.

Save time, energy and money where you see this sign

The European Union (EU) Energy Label

The EU Energy Label rates electrical appliances from A (the most efficient) to G (the least efficient), and provides additional information such as the capacity of the fridge or freezer and the wash and spin performance of washing machines.

The label must, by law, be shown on all fridges, freezers, fridge freezers, washing machines, tumble dryers, washer dryers, dishwashers, electric ovens and lightbulb packaging. So if you can't see it, ask the retailer.



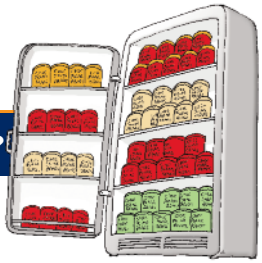
Remember!
All appliances use different amounts of electricity. How much juice is yours using? How much is it costing you? And what's the cost to the environment? To find out, read on.

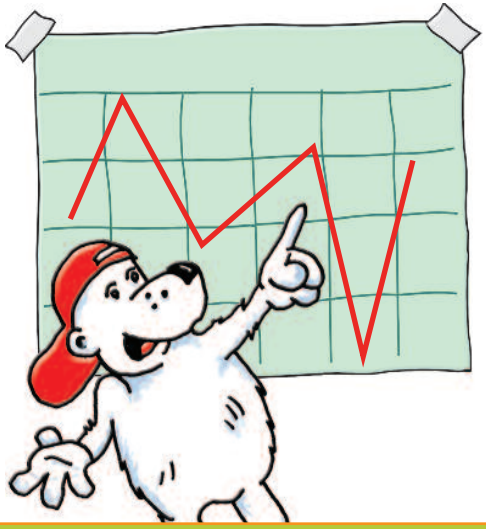
How efficient is my electrical appliance?

Fridge freezer savings: Buying an energy efficient fridge freezer to replace your inefficient model could cut your carbon dioxide emissions from your home by up to 115kg a year. It uses only 40% of the energy to do the same job as a 10-year-old appliance – that's a saving of £37 a year.

Because appliances use different amounts of energy, the energy label is designed to tell you the exact energy consumption of your equipment in kilowatt hours (KWh) under standard operating conditions.

How do new white goods compare to older models?





If your current appliances are more than ten years old, you could save the following in electricity bills, simply by upgrading to a new, energy efficient model.

EU Energy rating		Saving pa	CO2 saving a year
Fridge freezer	A+ or A++	£37	115kg
Upright/ Chest Freezer	A+ or A++	£24	80kg
Refrigerator	A+ or A++	£17	55kg
Dishwasher	A	£7	25kg

*Calculations are based on replacing an average appliance purchased new in 2000 with an Energy Saving Trust recommended model of similar size, and include an allowance for the heat replacement effect.

Energy saving light bulbs

What is an energy saving lightbulb?

Energy saving lightbulbs produce light using a fraction of the electricity needed for ordinary lightbulbs - which means they last up to 10 times longer*, and go on saving you money year after year. A single energy efficiency light bulb will save you up to £3 a year on your electricity bills.

Shapes and sizes

The latest energy saving lightbulbs look exactly like ordinary lightbulbs, which means they create an attractive aesthetic effect. Meanwhile, 'stick' type energy saving lightbulbs work best in central positions because they radiate light uniformly. For wall lights, however, you might prefer a 'flat' lightbulb, which provides more light at top and bottom.

How bright is the light?

Because they use just a quarter of the energy of traditional lightbulbs to create an equivalent amount of light, energy saving lightbulbs come in much lower wattages:

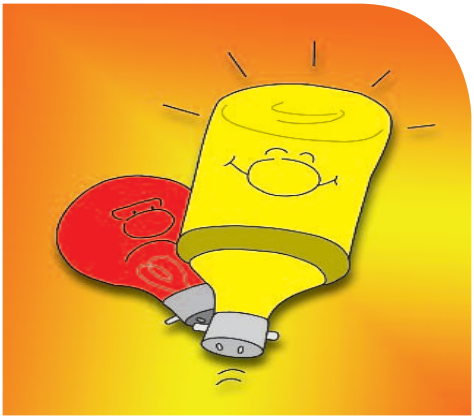
Ordinary bulbs	Energy saving bulb equivalent
25W	6W
40W	8-11W
60W	13-18W
100W	20-25W

The light is radiated differently to ordinary lightbulbs, so you might consider choosing the next higher wattage to achieve the same illumination.

The best place for lightbulbs

Take a look around your home. Where do you have your lights on most often and for the longest period? Outside security lights left on for several hours each night perhaps?

These could be one of the best candidates for replacement with energy saving lightbulbs.



be switched on – use light bulbs that last up to ten times longer

Switch on to energy saving lightbulbs

Did you know that replacing all of the lights in your house with energy saving bulbs could save you around £35 a year - £870 over the lifetime of all of the bulbs?

Energy efficient bulbs last around ten times longer than their inefficient counterparts.

Central heating

You can cut central heating costs by up to 17% simply by controlling your heating more effectively by addressing these four elements:

- Room temperature.
- The temperature of stored hot water.
- On/off times for heating and hot water.
- Switching off the boiler when heating is no longer required.

Boilers don't know when you need heating or hot water and at what temperature, which is why heating systems have controls to keep you comfortable, without wasting energy.

What do your central heating controls do exactly?

Your controls should be able to react to changes in temperature, provide different levels of temperature in different rooms, and be able to switch your heating and hot water on and off when you want it. The control system should also prevent your boiler from providing heat unnecessarily, although if you have an older central heating system you may have to upgrade the controls to reap the maximum benefits.

Types of controls - timeswitch or programmer

This is probably the most useful of all heating controls. It turns your heating and hot water on and off automatically at the times you set - saving you energy and money. There are many electronic timeswitches out there, offering a selection of programme combinations, including simple automatic timers and separate programmes for weekdays, weekends and holidays.

Room thermostat

This device automatically switches your heating off once it reaches your chosen temperature, and back on again if it drops below your own comfort level. The room thermostat should be fixed to the wall of your most frequently used room, away from draughts, direct sunlight or other sources of heat.

Tip: There is nothing to stop you fitting two room thermostats, one upstairs and one downstairs to ensure your heating matches your lifestyle.

Thermostatic radiator valves (TRVs)

TRVs enable you to control the temperature of each room separately and reduce your heating bills further by reducing the flow of water to the radiator as the thermostat reaches its set temperature.

They work best in rooms that overheat, like kitchens or conservatories, or in rooms which are rarely used, such as spare bedrooms.

Remember!
Do not fit a thermostatic radiator valve in the same room as a room thermostat. It will stop the room thermostat from turning off the heating when it should.

Hot water cylinder thermostat

Most central heating systems also heat your hot water, so by reducing the temperature of your stored hot water you can reduce energy wastage and save yourself money. For most people turning the cylinder thermostat down to 60°C is hot enough.

Boilers

There are four main types of modern boilers using gas, LPG (Liquefied Petroleum Gas) or oil:

- High efficiency boiler.
- High efficiency combination boiler.
- Conventional boiler.
- Conventional combination boiler.

As with other appliances, boilers are given an average seasonal efficiency rating from A to G. Before choosing a boiler check its average seasonal efficiency - manufacturers should include this in the manual. Average seasonal efficiency tells you how efficiently your boiler performs over the year. There is a special labelling scheme for boilers, called SEDBUK (Seasonal Efficiency of Domestic Boilers in the UK). To compare the efficiency of different boilers (old and new) use the database at www.sedbuk.com or ask your installer. Also, be sure to ask them for information on boilers that are Energy Saving Recommended.

High efficiency boilers use the heat not recovered by the main heat exchanger and make effective use of it by reducing the temperature of the flue gases to a point where water vapour produced during combustion is ‘condensed out’, releasing latent heat that would otherwise escape up the flue.

Conventional boiler

Next to a high efficiency boiler, a modern fan assisted boiler is the next best thing, running at round 78% average seasonal efficiency.

Combination boiler (combi)

It does the work of both a central heating boiler and a hot water cylinder and therefore you do not need a water storage tank. Installation costs may be lower and fitting is often less disruptive than with a conventional boiler.

High efficiency condensing boiler

These boilers can be up to 90% efficient, therefore saving money or running costs. In most cases it can be easily installed as a direct replacement for an existing wall mounted model dependant on flue siting and the ability to accommodate a condensation drain.

When should you change your boiler?

Do not forget, if your boiler is 15 years old or more, replacing it with a new high efficiency boiler with appropriate heat output for your property size will save you money on your heating bills straight away, and even more if you upgrade to modern boiler controls.

You will need professional help to replace your boiler. Work must be carried out on gas appliances by a **Gas Safe Registered** installer. For oil-fired appliances we recommend you use an installer registered with OFTEC (Oil Firing Technical Association for the Petroleum Industry).

*Savings are based on a gas heated semi-detached house with three bedrooms.

Be safe...

Whether you upgrade your heating system or not, remember that regular annual servicing will prolong the useful and efficient life of your boiler and can help prevent any disasters.

Home insulation measures

Cavity wall insulation

Whether you have cavity walls or not depends on the age and construction of your house. But if you do, then cavity wall insulation is a must for saving energy. It is a straightforward, inexpensive and low disruption job and although the work has to be carried out by a professional, you could save up to £140 a year on your heating costs so you're likely to recover your costs within three years.

How does it work? Simple. The professional installer injects the insulating material into the external wall by drilling a series of small holes from the outside of the building. The material itself can vary from foam to mineral wool (rock or glass to polystyrene beads), depending on your property and budget.

Tip: Not all houses are suitable for cavity wall insulation, the property should have clean cavities, be free of dampness and have no cracks in the external walls. So ask a professional Cavity Insulation Guarantee Agency (CIGA) installer to survey your property first in accordance with the British Standard for you first to avoid any problems in the future with dampness etc. Always make sure you obtain a 25 year CIGA guarantee for the work.

Insulation for solid walls

Some older properties have solid walls instead of cavity walls. To make further inroads into reducing your heating costs you can insulate the outside face of your walls. In this case, the insulation is added to the outside of your wall, and is suitably weatherproofed with a decorative finish. Although more expensive than insulating cavity walls, this treatment is ideal if your outside walls already need to be redecorated or repaired.

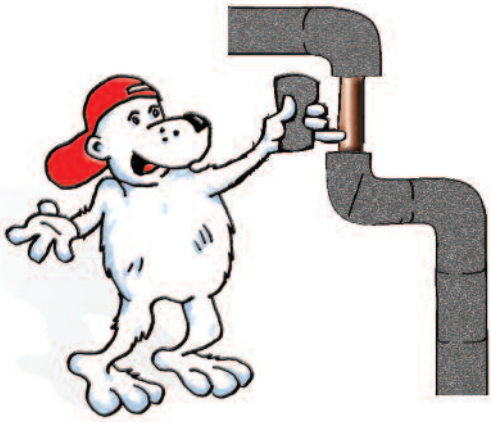
Loft insulation

Heat rises. It is a basic fact, and you could save 25% of your heating costs if you install up to 270mm of insulation in your loft. Even if you already have some form of loft insulation, why not top it up to a depth of at least 270mm, and in the process eradicate all that wasted energy and money?

And remember good ventilation is essential to minimise the risk of condensation and subsequent wood rot in your loft space, so why not check yours anyway, just to be on the safe side.

Heat loss is greater from certain areas such as joists, so remember to lay the top layer of insulation across the joists, but make sure you can access the tanks in the loft beforehand.

Tip: Remember to insulate all exposed hot and cold pipework and water tanks in your loft space to help prevent pipe burst and save heat.



Hot water tank and pipe insulation

Do you want your hot water to stay hot longer, but actually cost you less? Simply insulate your hot water cylinder using cheap and easy-to-install British Standard ‘jackets’, which can be found in any good DIY store. You can cut heat loss from your hot water tank by up to 75% by fitting a thick insulating jacket. Finally, insulate your hot water pipes wherever you can - especially those between the boiler and the hot water cylinder.

Double glazing

Installing double glazing can cut your heating bills by around £170 a year as well as 680 kilograms of carbon dioxide. By trapping air in a gap between the two panes of glass, it creates an insulating barrier that reduces noise, condensation, and cuts heat loss through the windows by 50%. If you can not manage the whole house, simply think, which rooms cost you the most money to heat? To minimise costs and time, fit double glazing when your existing windows need replacing.

The Government has introduced Building Regulations for England and Wales that set a minimum standard of thermal insulation for replacement windows. Ultimately this means that 'low emissivity', or low E double glazing, is likely to be needed for all new and replacement windows. Low E glass has a special invisible metallic coating that reflects heat back into your room, thus conserving heat.

Although it is the window installer's responsibility to comply with these new regulations, check with them anyway, just to be on the safe side.

Budget options

Secondary glazing is less expensive than replacement double glazing and can still save you about £105 a year on fuel bills.

Conservatory conservation

Although conservatories are great at trapping the sun on hot days, they are just as good at losing the heat on cold days - even when double glazed.

If you really need to heat your conservatory then use a radiator with a thermostatic radiator valve (TRV) - which will switch off automatically once the temperature reaches a certain level, and then reactivate if the temperature drops too much.

Before you buy a conservatory, think about the implications based on its elevations and orientation to the sun. South-facing conservatories will stay reasonably warm in winter, but become clammy in summer, while a north-facing conservatory will be comfortable in summer but need heating in winter.

*Savings are based on a gas heated semi-detached house with three bedrooms

be wise...

Choose the right specification for your window and roof glazing and you will boost the thermal performance of the whole conservatory.

Top 20 energy saving tips from Big Bill

By spending a few pounds now you can save hundreds on your fuel bills in the years to come, simply by adopting some of the measures listed here. And, just as importantly you will be helping to reduce carbon dioxide emissions and global warming.

Tip 1

Home insulation

The better insulated your home is, the less money you'll spend heating it, including draught-proofing, double glazing, and insulation for lofts and walls. See page 22 - Warm up North.

Tip 2

Heating and hot water

The latest energy-efficient boilers save you energy and money, and the right controls use as little energy as possible, whatever the age of your boiler. See page 22 - Warm up North.

Tip 3

Exterior doors

To eliminate draughts and wasted heat use an easy-to-fix brush or PVC seal on your exterior doors. Remember, however, that ventilation is also important, especially if you have open fires, gas fires or a boiler with a flue. If you have a chimney, get it swept regularly, and check your airbricks for any blockages.

Tip 4

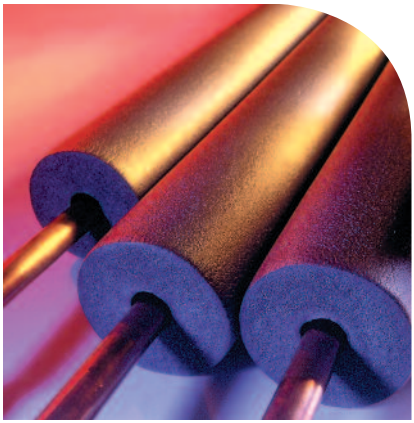
Hot water tanks

Insulate your hot water tank – making sure your hot water tank and pipes have adequate insulation could save you around £45 a year. Fit a British Standard jacket that's at least 75mm (3") thick.

Tip 5

Hot water pipes

Always insulate your hot water pipes to stop heat escaping from them.



Tip 6

Lightbulbs

If you use a particular lightbulb for an average of four hours or more a day, then replace it with an energy-saving equivalent - which will use around a quarter of the electricity, and last up to 10 times longer.

Tip 7

Floorboards and skirting boards

Stop draughts and heat escaping by filling gaps under skirting boards, with newspaper, beading or sealant.

Tip 8

Windows

Make sure your windows are draught proofed. A low cost, short-term alternative to double glazing is to tape polythene across window frames. You can buy special products from DIY stores.

*Savings are based on a gas heated semi-detached house with three bedrooms.

Don't forget!

spend a little now to save a lot in the future

Be energy efficient without spending a penny

Tip 9

Central heating

Stop wasting money and turn the thermostat down by 1°C. It could cut your heating bills by up to 10%. If you are going away during the winter leave the thermostat on a low setting to provide protection from freezing at minimum cost.

Tip 10

Hot water

Water needs to be hot, but never scalding. For most people, setting the cylinder thermostat at 60°C is fine for bathing and washing.

Always put the plug in your basin or sink! Leaving hot water taps running with the plug removed is washing money down the plughole.

Tip 11

Curtains

Close your curtains at dusk to stop heat escaping through the windows.

Tip 12

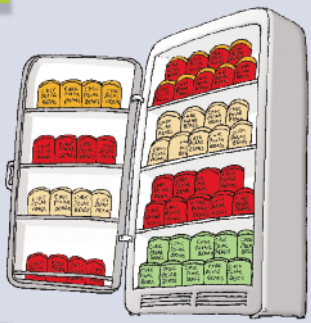
Lights

Always turn off the lights when you leave a room and adjust your curtains or blinds to let in as much light as possible during the day.

Tip 13 Televisions, videos, stereos, computers, cordless and mobile phones, etc

To reduce the amount of energy waste, avoid leaving appliances on standby and remember not to leave appliances on charge unnecessarily. Check the operation manual to make sure that this will not reset the appliance's memory.

Tip 14 Fridges and freezers



Do not leave the fridge or freezer door open for longer than necessary, as cold air will escape. Avoid putting hot or warm food straight into the fridge or freezer - allow it to cool down first. Defrost your freezer regularly to keep it running efficiently and cheaply. If it tends to frost up quickly, check the door seal and if you have to site your fridge or freezer next to a cooker or boiler, leave a good gap between them.

Tip 15 Washing machines and tumble dryers

Always wash a full load where possible, and if you can not, use a half load or economy programme if your machine has one. Always use the low temperature programme bearing in mind that with modern washing powders this will be just as effective. Do not put really wet clothes into a tumble dryer; wring them out or spin-dry them first. It will dry much faster and will save you money.

Tip 16

Dishwashers

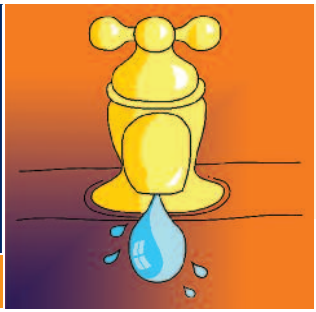
Always wash a full load and if you can not, use a half-load or economy programme if your machine has one. Also try and use the low temperature programme.

Tip 17

Pots and pans

Choose the right size pan for the food and cooker (the base should just cover an electric cooking ring) and keep lids on when cooking. With gas, the flames only need heat the bottom of the pan. If they lick up the side then you are wasting heat. Do not use more water than you need because it does not only waste energy, but it spoils food.

Tip 18



Taps

In just one day, a dripping hot water tap can waste energy and enough water to fill a bath. Make sure they are turned off.

Tip 19

Kettles

Only heat the amount of water you really need and if you are using an electric kettle, make sure you cover the elements. Jug-type kettles need less water as they have smaller elements.

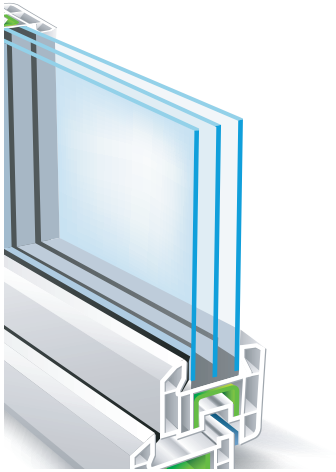
Tip 20

Warm UP North

Durham County Council is part of the Warm up North partnership to deliver the Government's new Green Deal and Energy Company Obligation schemes. Warm up North will run from 2013 – 2018.

Under Warm up North Durham County Council are working with nine other local authorities in the North East Region. Warm up North have procured British gas as our Green Deal and ECO delivery partner to engage with residents and lead on installing up to £200milli0n worth of Green Deal and ECO approved measures to at least 15000 homes across the North East.

Green Deal as part of Warm up North



The Governments Green Deal offers private homeowners and private rented properties a pay as you save loan scheme to install home energy efficiency improvements. This is a loan scheme and different to any other scheme previously available.

As part of Warm up North, Green Deal will offer a range of 45 approved energy efficiency measures that can be installed including double glazed windows and central heating boilers.

Your homes must be surveyed by an accredited Green Deal Assessor and the works, if agreed, must be carried out by an accredited installer. At the moment there is a charge for this survey.

The energy efficiency measures from Green Deal have no upfront cost. It is a loan which is paid back by the resident over an agreed period through energy savings via their electricity bills for the property. Green Deal loan repayments must be less than the financial savings to help reduce energy bills.

Energy Company Obligation as part of Warm up North

The Energy Company Obligation (ECO) has been introduced by the Government and can be applied for as part of Warm up North. ECO has two main parts:

- Grant funding for homeowners to install energy efficiency measures such as solid wall insulation to reduce the cost of these measures and is not linked to being in receipt of a qualifying benefit

- Low income households who are in receipt of a specified qualifying benefit could qualify for free central heating boiler and insulation measures.

For further information on Warm up North please visit the website

www.warmupnorth.com

or contact the British Gas Warm up North Team on

0800 294 8073.

warmupnorth

What is renewable energy

Renewable energy are sources of energy which are replenished at the same rate as they are used. The advantage of this is that this source of energy will not run out in the future and will not impact on the world's resources. Examples of renewable energy are: wind power; solar water heating; solar electric power; ground source heat pumps; biomass and green energy.

Visit the Energy Saving Trust website at www.energysavingtrust.org.uk and refer to the Generate your own energy section. This gives you details of the grants that are available as well as a wealth of more information about all forms of mirco-renewable technologies, including solar electric.

Solar water heating

Solar water heating systems use free heat from the sun to warm domestic hot water. A conventional boiler or immersion heater can be used to make the water hotter, or to provide hot water when solar energy is unavailable. Government grants are available: visit www.rhincentive.co.uk. Also visit the Energy Saving Trust website at www.energysavingtrust.org.uk and refer to the Generate your own energy section to find out more.

Solar electric power

This technology is called Photovoltaic (PV) and produces electricity from special PV panels normally placed at roof level. The electricity produced can be stored in special batteries for use later or used immediately. Government grants are available: visit www.fitariffs.co.uk and refer to the Generate your own energy section to find out more.

Ground source heat pumps

This technology uses solar heat which is stored in the ground. Heat is extracted using a network of underground fluid filled pipes.
Government grants are available: visit www.rhicentive.co.uk

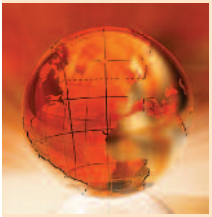
Biomass

Biomass is the growing of commercial crops which are then burnt in a boiler to provide heating for domestic or commercial premises.
Government grants are available: visit www.rhincentive.co.uk

Green electricity

When you buy green electricity, the amount you pay is used to purchase electricity from renewable energy sources such as wind, water and solar power. This helps to reduce the harmful environmental impacts of electricity generated from conventional sources such as coal, oil and gas. Some electricity companies offer green electricity at the same price as ordinary brown electricity.
More information: The green electricity Marketplace provides information on green electricity suppliers at www.greenelectricity.org

what is climate change?



Climate change is the world's most important environmental problem. The climate is changing because human activities such as burning coal, oil and gas to produce energy are releasing more and more greenhouse gases into the atmosphere - mainly carbon dioxide. These gases trap heat from the sun, causing global warming and changing weather conditions across the world.

What can we all do to reduce global warming?

We can all play a part in helping to reduce this very significant problem by reducing the energy we use in our homes, installing insulation measures and being more energy efficient by following the tips shown on page 17 of this booklet.

making your home energy efficient, helping the environment and saving money

It you require further information please contact:

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warmhomes@durham.gov.uk
www.durham.gov.uk/warmhomes

www.durham.gov.uk

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