BRIGHTON
PEACE & ENVIRONMENT
CENTRE

ENERGY IN THE HOME

We use electricity to help us with so many tasks each day that it is easy to take it for granted. However, it is important to consider where our energy comes from and what impact it has on our environment. In the UK, the largest contributer to carbon dioxide (CO_2) emissions are the power stations that burn fossil fuels to generate electricity. CO_2 is responsible for 85-90% of global warming. Electricity from renewables or nuclear produce hardly any CO_2.

Producing Your Own

Wind energy is very site-specific. Rooftop sites are generally unsuitable, as the resonance may damage the structure of the building. Solar power - *Photovoltaics (PV)*, have higher start up costs than other renewables, but should come down in time. They are relatively easy to install and maintain. Grid connected solar photovoltaic roof tiles are the most common choice.

According to the **Centre for Alternative Technology (CAT)**, for those on the national grid, it is unlikely to be financially viable to generate your own electricity. The best things to do are switch to a green electricity supplier and maximise the energy efficiency in your home.

Green Electricity Suppliers

The National Consumer Council's study found that the green options offered by many of the electricity suppliers are not providing the environmental benefits they claim to, and cheap schemes offered by big energy companies are especially criticised.

Top Dogs:

- **Good Energy**, *www.good-energy.co.uk* or *0845 4561640*
- **Ecotricity**'s 'New Energy Plus', *www.ecotricity.co.uk* or *0800 0326100*

The Rest:

- **Green Energy**'s '100' tariff, *www.greenenergy.uk.com* or *0800 7838851*
- **Ecotricity**'s 'New Energy' tariff is lower in price and is still a good green option as profits are invested in windfarm generation

For an overview of green tariffs in our region, visit w*ww.greenelectricity.org/tariffs.php.*

How Much Energy are You Using?

Knowing how much energy you consume will help you make changes to reduce your energy consumption. Visit *www.energysavingtrust.org.uk* for a home energy check and/or buy a Smart meter which clips onto a main wire from your existing meter and gives you live feedback on your electricity (and sometimes gas) usage.

Reducing Energy Consumption

Electricity:
It is easy to save electricity; it just takes a few good habits. Turn off lights when you are not in the room; use energy saving light bulbs; do not leave devices on standby; turn off chargers when they have done their job (or buy a solar charger); only boil as much water in the kettle as necessary; wait until you have a full load for the washing machine, and try putting on an extra layer of clothing rather than turning up the heating. Many energy saving devices (and Smart meters) are available from:
www.homeenergysaving.co.uk
www.ethicalsuperstore.com
www.nigelsecostore.com

If you are buying new appliances, go for energy rating 'A'. For TVs, try to get one with the smallest screen that you are comfortable with, and laptops are less power hungry than desktop computers.

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Brighton & Hove

Gas
Some energy experts say it is better to use renewable electricity than gas, so you could consider changing your gas appliances to electric and using a green energy supplier.

Water Heating Systems

If your boiler is more than 10 years old, replacing it with a gas condensing model can save up to 32% of energy. You may also want to consider a solar-powered system or biomass boiler. Wood fuel is a very good source for renewable heat, and solar hot water heating is simple, low cost and very effective. If you are replacing your heating system, doing up your home, or fitting out a new building, under-floor heating can substantially improve energy efficiency and is definitely worth considering. If you have a small property, you could use energy efficient convection heaters or gas heaters rather than central heating.

Hot Water Solar Heating Systems
A solar hot water system works alongside a conventional water heater. It can provide about a third of a home's hot water needs and reduces CO_2 emissions by around 330kg per year.

Wood Fuel
Using wood fuel from sustainable sources will ensure CO_2 emissions do not exceed the CO_2 reduction from further tree growth. Sustainable sources include off-cuts from tree surgery, remains from timber manufacture and buying from sustainably managed forests. Wood pellet or 'biomass' boilers can be used for central heating and hot water. For more information contact **Bioenergy Technology Limited** at *www.bioenergy.org* or *01825 890140.*

Under-floor Heating
This system produces an even temperature over the floor area. It should run at 35ºC, compared to radiators which run at 75ºC. It works well with a condensing boiler because the boiler runs more efficiently at lower temperatures. However, it can take a long time to heat up, so it is best used in buildings that will be in use for fairly long periods.

Insulation and Draught-Proofing

The average conventional house loses 35% of its heat through the walls, 25% through the roof, another 25% through draughty doors and windows, and 15% through the floor.

Lofts and Walls
Loft insulation saves more energy the thicker it is. The recommended level of thickness is 100mm deep, but 250mm is much better. If you have cavity walls, get cavity wall insulation. If every house in the UK that could, installed cavity wall insulation, it would cut CO_2 emissions by around 7 million tonnes.

Windows
Double-glazing can cut heat loss by half. The **Centre for Alternative Technology** recommends argon-filled double-glazing with a 'low-e' coating as the most efficient. However, double-glazing can be expensive to install. The energy saved is similar to that saved by cavity wall insulation, but the installation costs of double glazing can be ten times as much. There are various sorts of secondary glazing available, all fitted to the interior frame: an additional window, a magnetic or adhesive pane, or even some clear plastic film (polythene), which you can get from DIY stores. You can even use supermarket cling film.

Skirting Boards, Floorboards and Doors
Fill gaps with newspaper, beading or mastic sealant. Cover floors with rugs or carpet. For Draughty doors, fix a brush seal, a PVC seal or a spring flap to your exterior doors, and put a cover over keyholes and letter boxes.

Grants

All households in Brighton and Hove are eligible for at least 50% off loft and cavity all insulation, and if you are 70 or over or on Means Tested Benefits and earning less than £15,460 per year, you are eligible for free loft and cavity insulation. To apply for insulation, contact your energy company.

The Warm Front grant is government-funded and managed by **Eaga**. It offers a package of insulation and heating improvements to all qualifying households. For more information e-mail *enquiry@eaga.com* or call *0800 3162805*. There are also Brighton and Hove Warm-Homes Grants, call *0800 0480727*.

The Low Carbon Buildings Programme, Phase 1, provides households, community organisations, public, private and non-profit sectors with grants of up to £2,500 for certified micro generation technologies from a certified installer. Visit *www.lowcarbonbuildings.org.uk.*

Brighton & Hove City Council's Home Energy Efficiency Officer: *Philip.Wingfield@brighton-hove.gov.uk*

What you can do right now... Go to *www.uswitch.com* for a really easy way to choose your new green electricity supplier.

Resources & Further Information

'Cool It!' tipsheet - Centre for Alternative Technology Publications

'How to Live a Low Carbon Life' by Chris Godall - Earthscam, 2007

'The Energy Saving House' by Thierry Salomon and Stephane Bedal New Futures