



BOLLINGTON CARBON REVOLUTION

Appendix 2: Energy Efficiency

Energy Rating in the UK

The National Energy Foundation developed the first commercially available Energy Rating system (the National Home Energy Rating Scheme - NHER) for use on British homes.

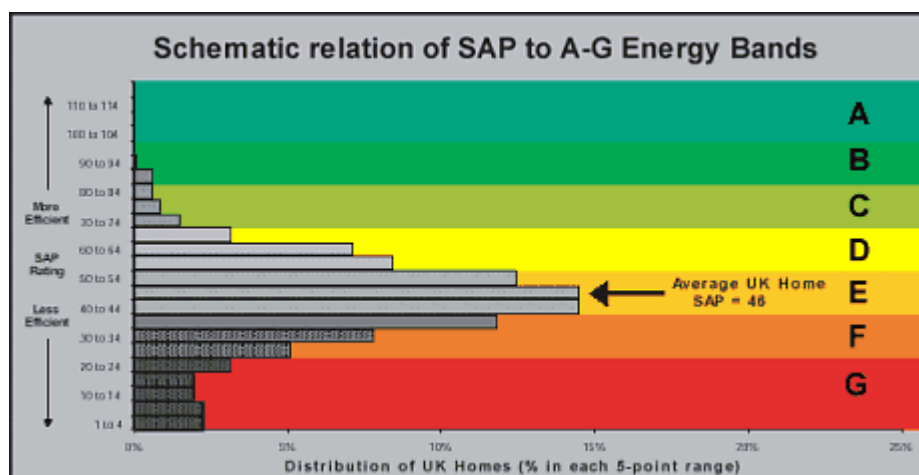
See www.nher.co.uk

By 1994 the scheme had been so successful and grown so large that for legal reasons the Trustees of the charity believed that it should be operated through a trading subsidiary company - National Energy Services Ltd.

What is an Energy Rating for a Home?

Energy Rating for Homes is quite simply a way of comparing the amount of fuel that would be used by different homes assuming that the occupants live in them in the same way.

The Standard Assessment Procedure (SAP) on a scale from 1-120. In addition the best energy labels will also quote 'The National Home Energy Rating' (NHER) on a scale of 0 to 10; and is based on an estimate of the amount of carbon dioxide (CO₂) emitted each year as a result of the home's energy use.



Is there an Energy Rating system for office equipment?

At present there is no agreed standard in either the UK or the EU. However many items of computer equipment carry the US Energy Star label. ENERGY STAR®



Can I find out where my electricity has come from?

Not yet. All electricity from the UK grid is a mix of so-called green electricity from renewable sources and brown electricity from fossil fuels (coal, oil and gas) and nuclear sources. Although it is possible to sign up to an electricity supplier or tariff who will only buy from green sources, the actual energy delivered through the wires to your home or business will be the same.

Is there Energy Rating for Cars?

Yes! The Department of Transport has published a table of fuel efficiency for cars. This can be found on their website at www.vcacarfueldata.org.uk

VEHICLE EXCISE DUTY BANDS		Diesel Car	Petrol Car	Alternative Fuel Car
Fuel Economy Category	CO ₂ Emission Figure (g/km)	12 months tax rate £	12 months tax rate £	12 months tax rate £
A Rated (VED Band AAA)	Up to 100	75	65	55
B Rated (VED Band AA)	101 to 120	85	75	65
C Rated (VED Band A)	121 to 150	115	105	95
D Rated (VED Band B)	151 to 165	135	125	115
E Rated (VED Band C)	166 to 185	155	145	135
F Rated (VED Band D)	Over 185	165	160	155

Saving Energy in the home or office need not be difficult or expensive

A typical three bedroom semi-detached house, without any insulation might cost around £500 a year to heat. By following some of the simple measures you could cut your bills in half. These include:

Installing good insulation

Fill gaps under skirting boards and between floorboards with newspaper, papier mache or mastic sealant. Fit a good insulating jacket to your hot water tank if it does not have sprayed foam on the outside.

EACH COST: Around £5 - £10 SAVING: Around £10 - £20

For reference see www.nef.org.uk/energyadvice/insulation.htm

and Heating controls. Fit thermostatic radiator valves (TRVs) to stop you heating rooms you are not using.

COST: Around £45 - £60 SAVING: Around £10 - £20

For reference see www.nef.org.uk/energyadvice/heatingcontrols.htm

A highly efficient condensing boiler

Can be fitted if your old central heating boiler is worn out;
www.nef.org.uk/energyadvice/boilers.htm

Modern electric storage heaters

Are available if you are in an all-electric home;
www.nef.org.uk/energyadvice/storageheating.htm

Low energy light bulbs

Often called compact fluorescent lights (CFLs) they use about a quarter of the electricity and last eight times longer than an incandescent bulb. Fit energy saving light bulbs in areas where lights are left on for long periods of time, or in difficult to reach places. Look for CFLs with a European "A" Rating on the box; these have electronic ballasts and are guaranteed to be efficient with a long life. The latest CFL's can be used with dimmer switches or electronic timers. The EU has announced its intention to phase out the incandescent lamp by 2010.

COST: Around £1 - £5 SAVING: up to £35

For reference see www.nef.org.uk/energyadvice/lighting.htm

Fit "A" rated appliances

Such as fridges and washing machines, where possible;

For reference see www.nef.org.uk/energyadvice/washing.htm

Low cost measures

Put aluminium foil behind any radiators fitted to outside walls. Ordinary kitchen foil will do, or you can buy specially designed panels from DIY stores

COST: Up to £2 SAVING: Around £5 - £10

Free ways to save energy

Only use the heat and light appliances you really need – don't leave TVs or videos on standby. Also switch off this PC screen when it's not being used!

Try turning your heating thermostat down by 1°C. You will probably hardly notice the difference and it will save about 10% of your heating bill in a year. And keep furniture away from radiators, if possible; the foam in an upholstered chair is a very effective heat insulator and stops efficient air circulation.

When cooking choose the right pan size for the food and the cooker, cut food into smaller pieces and put lids on pans as the food will then cook a lot quicker. If you are defrosting food, or just warming things up, then microwave ovens are ideal as they use much less electricity than conventional ovens.

Regularly defrost your freezer and try to keep it about three quarters full. You should also check the seals on your fridge/freezer to ensure no warm air is getting in - the seals should be tight enough to hold a piece of paper securely when closed.

Try to have full loads when using the washing machine and washing powders can now be used at a 30°C wash cycle instead of 40°C.

You also don't need to have your domestic water heated to a scalding temperature either, for most people setting the thermostat to 60°C/140°F is quite adequate.

Use a bottom heated kettle for boiling water and heat up only enough water to make as little as one cup of tea.

The sun is the most readily available source of heat there is – and the cheapest! So make the most of it by opening internal doors of any rooms, which get more sun than others and let the warm air travel through your home.

Avoid using tumble driers and radiators to dry your clothes; on nice sunny days clothes can be dried outside for free.

Close curtains at dusk to help to keep warmth in the home

Urban myths or simple truths?

Do you know the answers to the following questions?

1. It uses less energy if you leave fluorescent lights switched on
2. Use less power - take a shower!
3. It's wisest to leave your immersion heater on 24 hours a day
4. If you have Thermostatic Radiator Valves you don't need a Room Thermostat
5. It's cheaper to use an immersion heater in the summer than to heat water from your central heating boiler
6. Replacing windows with double glazing will stop mould growth
7. Strapping on a gizmo to your boiler can save you at least 10% from your heating bills
8. Big freezers cost more to run than little freezers

9. Leaving your PC screen switched on during the lunch break prolongs its life and doesn't waste much energy
10. With global warming we won't need as much insulation in the future

The answers can be found at www.nef.org.uk/energyadvice/mythstruths.htm

CO2 Calculators

There are many CO2 Calculators and here are a few websites that you can use to calculate your carbon footprint

www.nef.org.uk/energyadvice/co2calculator.htm

www.carbonneutral.com/calculators/index_shop_calculator.asp

www.bestfootforward.com/carbonlife.htm

www.smmco2.co.uk/co2search2.asp (vehicles)

www.co2balance.com (mainly travel)