

Home Energy Savings Tipsheet 50p



Centre for
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Publications

Cut your fuel bills and reduce CO₂ emissions with CAT's energy advice for homeowners, landlords and tenants.

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There are two good reasons to use less energy – it saves money and helps reduce the amount of carbon dioxide (CO₂) in the atmosphere. This tipsheet explains why the second of these is important and shows you where and how you can cut the costs to make the first a reality. The advice for making energy savings at home is useful for everyone, but this tipsheet also looks at what you can do as either a landlord or a tenant.

Climate change begins at home

Every time you do something as ordinary as switch on a light you make a demand for electrical energy that has to be delivered to you, via the National Grid, by an energy supplier. In the UK, power stations rely heavily on fossil fuels (coal, oil and gas) to generate the energy

Running an average home produces more CO₂ than running a car.

we use, which means that any demands we make are directly linked to emissions of CO₂ – a potent

greenhouse gas – and, therefore, climate change. And it's not just our electricity use that causes problems: heating our homes relies on the burning of fossil fuels, something you might have noticed thanks to rising gas or oil bills. When all domestic energy demands are traced back to the amount of fossil fuels consumed we find that the average household in the UK is responsible for six tonnes of CO₂ emissions each year. With 20 million households, this amounts to over a quarter (27%) of all the UK's CO₂ emissions.

If climate change begins at home then it can also be tackled at home. It's not unreasonable to request a little light, heat and power, but by making some cuts to your individual energy demand you can also help reduce the atmospheric concentrations of CO₂. You don't have to live in discomfort or

make unreasonable effort to do this and you are never acting alone: more and more people are making positive lifestyle changes. A good way to get an idea of how much CO₂ is associated with your lifestyle is to calculate your carbon emissions. There are several carbon calculators available online; we recommend

www.bestfootforward.com (for a quick calculation) and www.resurgence.org (for a more involved, and accurate, calculation).

From here you can see where your biggest environmental impacts are and start making some positive changes.

A note for landlords and tenants

What happens if you own a house you don't live in, or you don't own the house in which you live? Is it simply the tenant's responsibility to make energy savings? Or the landlord's responsibility to make the home more energy efficient? The answer is: a bit of both. As a landlord, making your property more energy efficient will increase its worth to you in the long run. This doesn't mean that you immediately have to strip out appliances and replace them with upgrades, but it is worth checking the energy efficiency of any replacements or improvements you make in the future. Improving insulation and draughtproofing will increase the HIP ('Home Information Pack') rating of your property – from 2007 home sellers will have to provide property efficiency details to prospective buyers in a Home Information Pack – and so incorporating energy efficiency measures will

Making a 20% energy saving will lessen your CO₂ emissions by two tonnes and save you £250 a year in bills.

Source: the Energy Saving Trust

help you sell the property on. Grants are available for energy efficiency improvements to your property and as a landlord you can apply via the same route as any homeowner (see below).

As a tenant, any energy savings

you make will translate into financial savings on your utility bills. The other incentive is to take the actions that will reduce your carbon emissions.

There are lots of things you can do that won't upset your landlord, and lots of things you can encourage your landlord to investigate (tell them they might be eligible for a grant!).

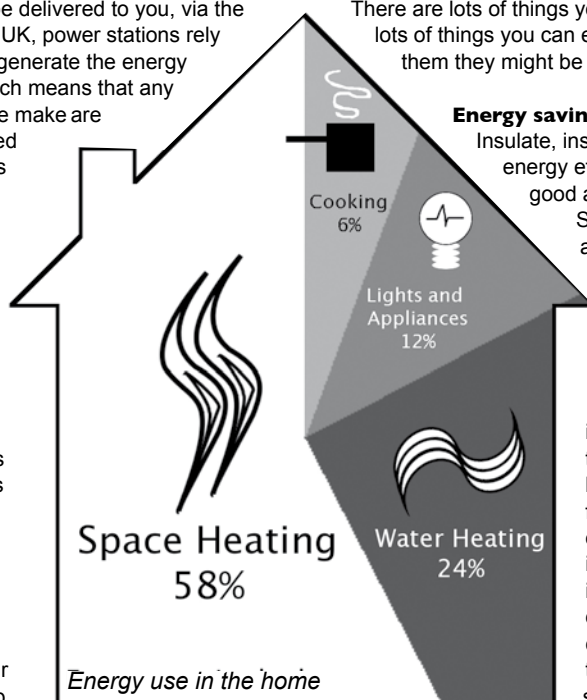
Energy savings – 1. Space heating

Insulate, insulate, insulate! The benefits of many of the energy efficiency measures you take will only be as good as your home's insulation and draughtproofing.

Starting at the top – loft insulation: Around a quarter of the heat in your home could be pouring out of the roof due to bad insulation.

That means around a quarter of the cost of your heating bill is pouring out of your pocket for no good reason.

If you're a tenant you should encourage your landlord to replace any compacted insulation and fit at least a 250mm layer in the roof; 300-450mm is preferable, the rule being to fit more where it's easy. Or offer to fit it yourself – fibreglass is no longer the only option, you could try sheep's wool or cellulose instead. If you're a landlord and haven't installed proper roof insulation then you should do it soon; it will cost about the same as a cheap washing machine. Insulation helps keep the property warm in winter and cool in the summer, reducing over-reliance on heating appliances and putting less stress on the building due to temperature variance. (Also see



CAT's 'Insulation' tipsheet.)

- Make sure the insulation materials don't get wet or flattened.
- Insulating your loft will make it cooler so lag pipes and insulate tanks to prevent freezing.
- Allow space for some air flow around joists to avoid condensation.
- Wall insulation is also essential – cavity walls can be insulated by accredited installers within a single day and will save around £100 on fuel bills (most houses built after the 1930s have cavity walls); solid walls and internal walls are more difficult to insulate but doing so can save you over £200.

Draughtproofing: Warm air travels to cold spaces, so if you've got gaps around your window or door frames, skirting boards or floorboards then you could be losing £10-£20 a year through unnecessary heat loss. Draughtproofing measures are simple and cost effective. By controlling draughts and allowing proper ventilation you reduce condensation, especially in kitchens and bathrooms, and cut out unhealthy stuffiness.

When the temperature in your home dips it becomes humid quickly. This makes condensation on the walls more likely and encourages mould, germs and dust mites.

Draughtproofing is easy to do yourself (or you can hire an installer) and costs as little as £40 so has a fast rate of return on investment (ROI).

- Materials are available from DIY outlets (look for the BS

7386 standard) and include: foams, brushes, sealants and thin sections of rubber, plastic or metal.

- What to do: fill the gap between the door and the door jamb with a sticky foam strip; fit brush draught excluders to the bottom of doors and to your letter box or use a 'snake' for interior doors; fill in gaps around windows and door frames, along floorboards and skirting boards with a sealant; or use compression seals and wiper seals on windows and doors.
- Remember to close your curtains at dusk (thermal-lined curtains are best).
- If your chimney is unused, fit a chimney balloon to stop draughts.
- Don't block up vents or fans – these are essential for good, healthy air flow.
- And don't forget you can draughtproof your loft hatch, cat flap, keyholes and any gaps in the brickwork where outside pipes or wiring enter the house.

Double-glazing: It's not only open channels that let cool air in, your windows might be undoing all the good work of your heating system by conducting warm air away, e.g. single-glazed windows can cause 20% heat loss. Double-glazing increases insulation, stops condensation on the inner pane and can cut heating bills by £60-£70 a year. Fitting new windows is a job for homeowners and landlords but is worth the investment, not least as it increases the value of the property. There are some interim measures you can take, too.

- It's most cost effective to fit double-glazing when your existing windows need replacing, but you don't have to do it all at once – first replace windows in the rooms most used.
- Low emissivity (Low-E), argon-filled (or gas-filled) double-glazing is the best option available – it has a 20-30% increased performance for around 15% extra cost.
- PVC frames have high embodied energy costs (as do aluminium frames) and high chemical content; wood is a better choice (make sure it's not imported hardwood), and it produces narrower framework so you get a better view.
- Alternatively you can fit secondary glazing which costs less to install. For a very simple measure (especially in wintertime), cover single-glazing with clear plastic film to add an air gap between the window and the room; or you can cover the inside pane with bubble wrap!

2. Other heat and hot water savings

- Turn your thermostat down to 17-19°C (you won't notice much difference) for instant savings.
- Keep thermostats free from draughts (or cold or warm air) as they don't cope well with airflow and could end up costing you money in unnecessary heating; also check the device for accuracy – the least accurate are +/-2°C – and replace if necessary.
- Use timer controls to get heat and hot water when you want them and to save energy and money when you don't – adjust them with the change of seasons or when you go away.
- Install reflector foil behind your radiators to reduce heat loss through walls.
- Replace an old boiler (10-15+ years) with an energy efficient condensing boiler to use a third less gas and save 32% on fuel bills.
- If you're replacing your boiler also fit the right control package including thermostatic controls (room thermostats and thermostatic radiator valves) to save you an additional 8% on your fuel bills – contact your local Energy Efficiency Advice Centre for installers in your area.
- If you have storage heaters, turn the output down overnight and up in the evening.
- Make sure your electric hot water cylinder is wearing a good quality lagging-jacket – if it's less than 3 inches (75mm) thick, add another on top and save up to 75% of water heating costs.
- Also lag your hot water pipes, especially between the boiler and hot water tank, to reduce heat and money losses; this also saves any water wasted when running the tap to hot.
- Install solar water heating and get hot water for roughly half of the year using the power of the sun – grants are available at www.lowcarbonbuildings.org.uk.

Every time you turn up your heating by 1°C you use 7-10% more energy! This costs you money and increases CO₂ emissions.

3. Lighting and appliances

- Replace blown lightbulbs with energy saving lightbulbs – they might

be a little more expensive initially but they use a quarter of the energy of traditional incandescent bulbs, last 12 times as long and can save you up to £10 a year (per bulb) on your electricity bill.

- Turn off appliances at the wall – £740 million is wasted and 3 million tonnes of CO₂ is emitted in the UK each year by appliances left on standby.
- The EU Energy Label rates electrical appliances from A to G where A is the most energy efficient (and up to A++ for refrigeration) – efficiency is based on the amount of electrical energy used in kilowatts per hour (kWh) and is on the label for all fridges, freezers and fridge freezers, washing machines, tumble dryers, washer dryers, dishwashers and lightbulbs.
- Replacing an old (10+ years) washing machine with an A rated water saving one will use a third less energy every wash and can save you £450 over another 10 years.
- Find energy efficient products at www.saveenergy.co.uk
- Finally, if you haven't done so already, switch to green electricity – this will ensure your power company generates or purchases more energy from renewable energy sources (solar, wind and water).

Each year the equivalent output of 2 power stations is consumed by appliances left on standby. Some standby modes can use two thirds of the actual 'ON' energy demand. Flick the switch at the socket and unplug to save up to 6% on your energy bills.

Return on investment (ROI)

Item	Cost	Recovery time	Annual saving
Energy efficient lightbulb	£5	6 months	£10
Hot water tank insulation & pipe lagging (DIY)	£20+	1-2 years	£10-20
New boiler & full controls	£500-1,000	4-8 years	£130-40
Room thermostat (DIY)	£40-100	2-5 years	£20-25
Draughtproofing (DIY)	£40+	3-4 years	£10-15
Cavity wall insulation	£280-380	3-5 years	£70-100
Loft insulation (DIY)	£140+	5 years	£20-30

Domestic energy efficiency grants are available, so if you're insulating, draughtproofing or getting a new heating system visit the Grant Information Database at www.saveenergy.co.uk, tel. 0800 512 012 or visit the Energy Saving Trust website at www.est.org.uk

Recommended reading

You may find the following CAT titles helpful:

- *The Energy Saving House*
Reduce energy, save money and do your bit for the planet by giving your home a complete energy audit.
- *The Whole House Book: ecological building design and materials*
The definitive guide to green building, from design to completion.
- *Tapping the Sun: a guide to solar water heating*
Learn how solar water heating systems work, and save on energy costs by harnessing the power of the sun.

CAT's range of tipsheets and factsheets also cover a wide range of related energy efficiency topics. The above titles are available from CAT Mail Order. Tel: 01654 705959 or see www.cat.org.uk/catpubs to order, download tipsheets and factsheets, or to get a copy of the complete Buy Green by Mail catalogue.

For further information contact the CAT Information Service: www.cat.org.uk, info@cat.org.uk, 01654 705989