

Street Champions Handbook

***Your guide to
becoming a street
champion***



Richmond Environment Network
linking, supporting, developing & promoting local environmental & sustainability activities

What you didn't know about your home...

The facts:

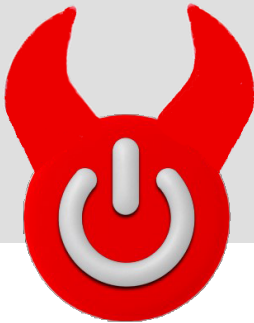
- Each household in the UK creates around **5.5 tonnes** of carbon dioxide (CO₂) every year – that's enough to fill a hot air balloon.



- The amount of heat lost in homes annually through uninsulated lofts and cavity walls is enough to heat over 1.6 million homes for a year.

- In an uninsulated house, more than **50%** of the heat is lost through the walls and roof.

- The average household spends **£23** per week on fuel and power - that's about **£1,200** per year.



- On average, each UK household wastes around **£33** each year by leaving appliances on standby.

but...

The solutions:

- On average, homes can save about **£300** a year by insulating, improving their heating system and being energy-efficient.

- This is the equivalent saving of around **1.5 tonnes** of CO₂ per household.

How you can save money & energy

Insulation

Insulating your house as best as possible to reduce heating needs will have a huge impact on CO2 emissions.*

Solid wall insulation

If you have solid walls you can either insulate them with external or internal insulation, saving you around **£400** a year on your energy bills.

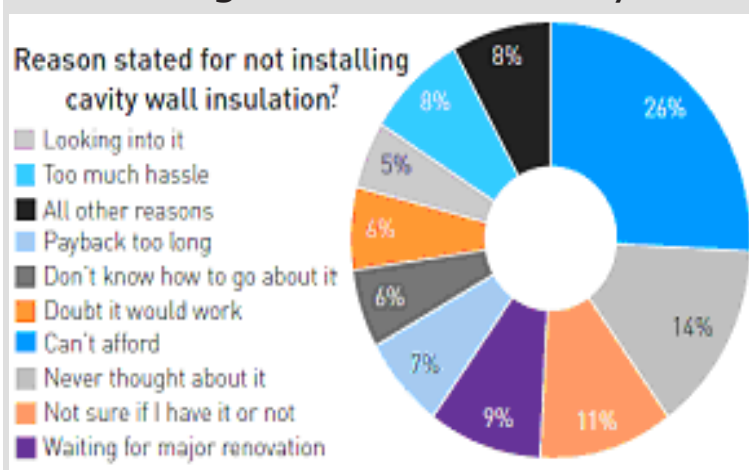
- Installing solid wall insulation could save **two tonnes** of CO2 per year.

Solid wall insulation tends to deliver larger savings than loft and cavity wall insulation because solid wall homes tend to be older and more poorly insulated in the first place.

Cavity wall insulation

Around a third of all the heat lost in an un-insulated home is lost through the walls. Cavity wall insulation is a fantastic way

to significantly reduce the amount of energy you need to heat your home and could save you around **£115** a year on your fuel bills.



* Tax allowances of up to £1,500 are available until 2015 for Landlords through the Landlords Energy Saving Allowance. This allowance can be used on each of the properties a landlord owns, enabling landlords to claim the costs for cavity wall insulation, loft insulation, solid wall insulation, draught proofing, hot water tank insulation and floor insulation. Visit the HM Revenue & Customs website for more information.

Floor insulation

- Insulating beneath floorboards will reduce heating bills and improve the comfort of your home. You could save around **£50** a year by insulating your floors.

Draught proofing

- Full draught proofing will save on average **£25** per year. Blocking gaps around skirting boards and floor boards could save another **£20** per year.

- Draught-free homes are comfortable at lower temperatures – so you'll be able to turn down your thermostat. This could save you another **£55** per year.



Door draught proofing

Loft Insulation

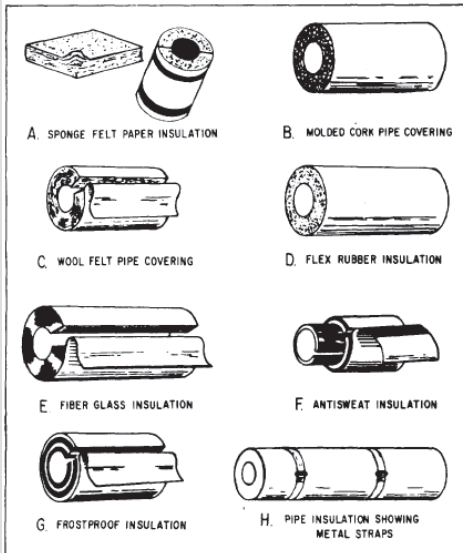
- Insulating your loft could save you around **£150** per year on your energy bills if you don't have any insulation there at the moment. If everyone in the UK topped up their loft insulation to 270mm, around **£520m** would be saved each year!

- Loft insulation is effective for at least 40 years, and it will pay for itself over and over again in that time. The better insulated your home, the less energy you need to keep it warm - the more money you'll save in the long run.



Loft Insulation

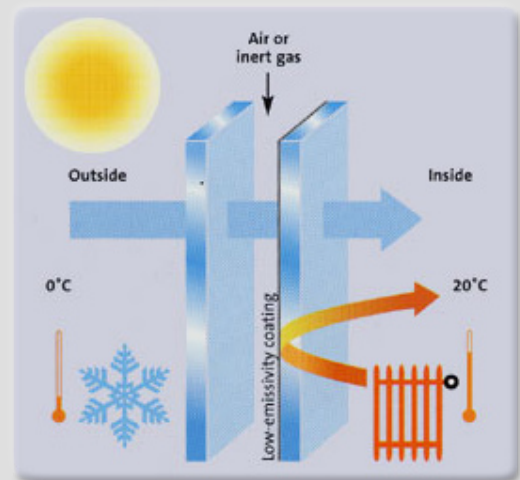
Tanks and pipe insulation



- Both tank and pipe insulation keep your water hotter for longer by reducing the amount of heat that escapes. If everyone in the UK fitted a hot water cylinder jacket that was at least 75mm thick, there would be enough carbon dioxide saved per year to fill 7 million double decker buses!

Glazing

- Double glazing cuts heat lost through windows by half and installing *Energy Saving Trust* recommended double glazing could save around **£135** a year on your heating bills. Double glazing works by trapping air between two panes of glass creating an insulating barrier that reduces heat loss, noise and condensation.



For more information on any draught proofing measures visit: <http://www.energysavingtrust.org.uk/Home-improvements-and-products/>

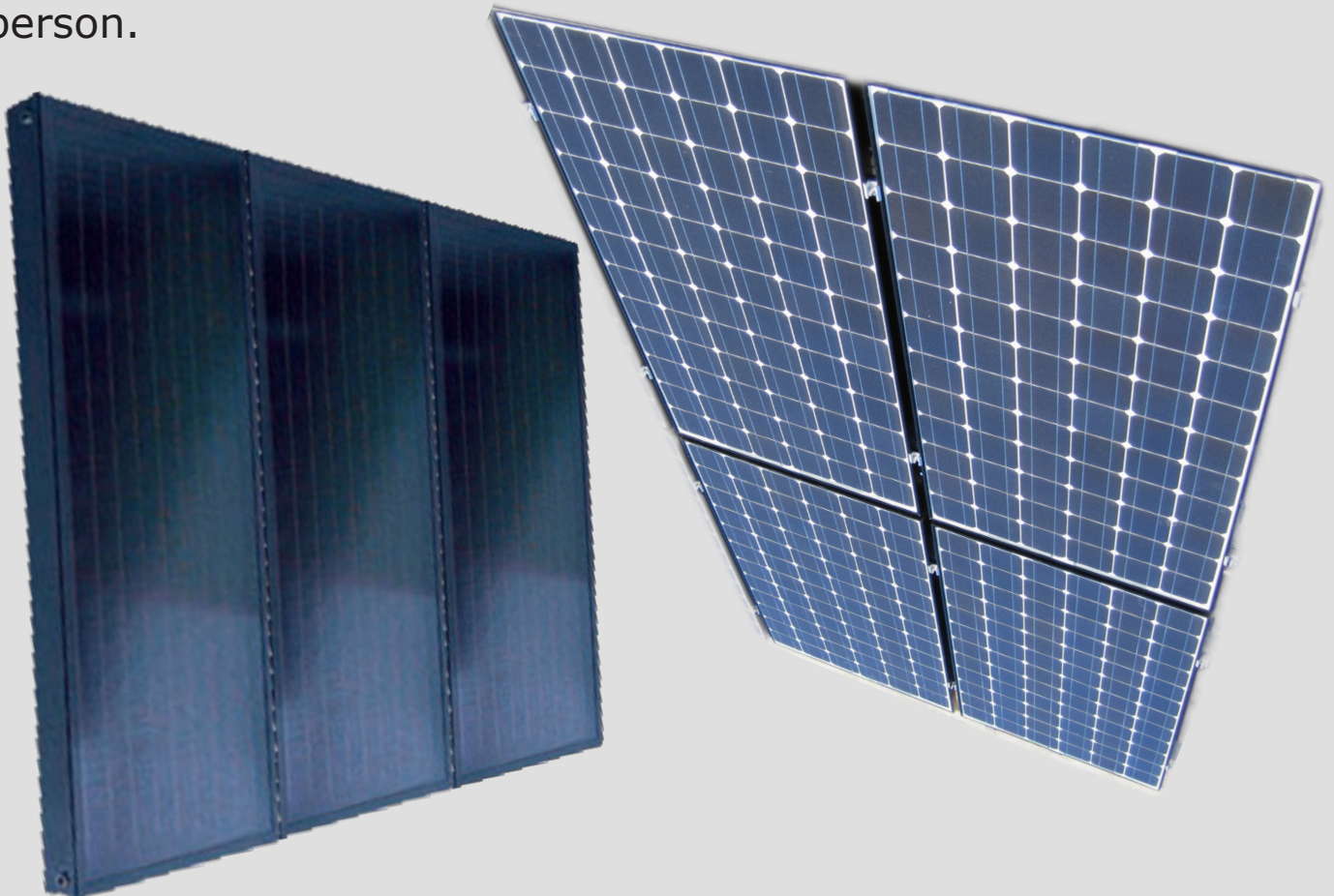
Renewable energy

Solar thermal (solar hot water)

- Estimates suggest that a well designed system could provide up to 70% of a household's water heating needs.
- A typical solar water heating system costs between **£3,000** and **£5,000**.
- If you currently heat your water by electricity, solar could save you **£85** a year – and 580kg of CO₂.
- You only need one square metre of heating panel per person.

Solar PV (generating electricity from solar power)

- A typical 1 kW system could produce up to 800 kWh per year, which is around 25% of the average household's electricity consumption.
- A solar PV system could save up to 16 tonnes of carbon dioxide emissions in its lifetime.
- Modern technologies allow solar panels to make the best use of the British climate, even in cloudy/broken sunshine.

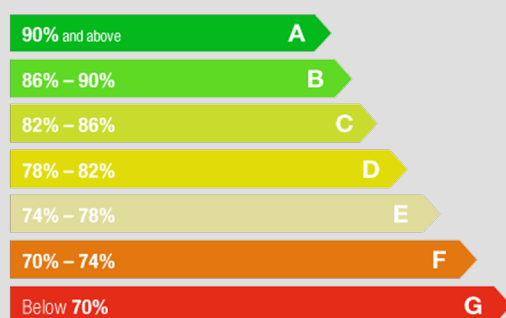


Additional reasons to go renewable...

- Since 1st April 2010, the Clean Energy Cashback Scheme, or feed-in tariff, means that you get paid 41p for each unit of electricity your system generates, even if you use that electricity yourself.
- Your house value will increase, possibly covering the costs, if not more. A recent survey by MORI found people are willing to pay up to £10,000 more for a home built to high environmental standards.
- Installation of renewable micro-electricity generation will earn a return on investment of 5-8% a year as a result of the new Feed-In Tariffs (FITs) regime which comes in to place from 1st April 2010 and a similar scheme will cover renewable heat.

New boiler

Boilers account for around 60% of the carbon dioxide emissions in a gas heated home. By replacing an old G rated boiler with a new high efficiency condensing boiler and improving your heating controls, you will significantly cut your home's carbon dioxide emissions and could save as much as **£235** a year.



SEDBUK measures the energy efficiency of the boiler



old boiler example



New boiler example

Why?

The need to cut carbon emissions

CO₂ and various other gases wrap the earth in an invisible blanket helping to prevent heat from escaping. Without this greenhouse effect, the average temperature on Earth would be around -18°C, compared with the current average of around +15°C. The composition of this blanket of gases has remained relatively constant for many thousands of years.



Since the industrial revolution began around 200 years ago, people have been burning growing amounts of fossil fuels - releasing more CO₂ and other greenhouse gases in the process. This has increased the heating effect of the blanket, trapping more of the sun's energy inside our atmosphere. In turn the Earth's temperature has increased more rapidly in a shorter period of time than it has for thousands of years.

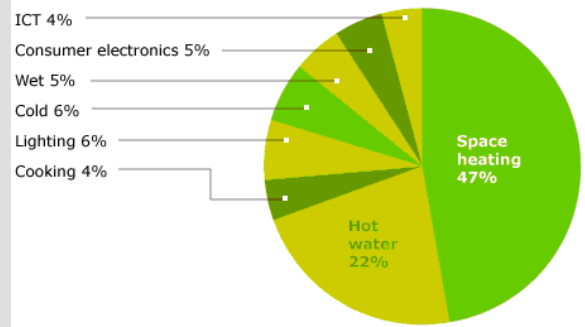
Targets

The UK has committed to reducing carbon dioxide emissions by 34 per cent below 1990 levels by 2020 and seeks an 80% reduction in emissions by 2050. There are a number of initiatives that have been set up to help meet this reduction, these include the Carbon Emissions Reduction Target (CERT), the Climate Change Levy and the Climate Change Act amongst others.

Domestic carbon emissions

In 2007, total UK CO₂ emissions were 543 million tonnes. 26% (142 million tonnes) of those emissions came from the energy we use to heat, light and power our homes.

Domestic Co₂ emissions by end use



What is provided through the Low Carbon Zone?

- A resident signs up to be part of the Zone, using the forms provided;
- A British Gas employee visits the resident and makes a home energy assessment. He/she can also assist the resident to collect the baseline information from billing data that is required to join the scheme;
- Residents receive a second visit with the starter pack.

What is in the starter pack?

1. Real Time Display (RTD) monitor for electricity consumption
2. Thermal insulation jacket for hot water
3. Power-down plug
4. Draught proof door brush
5. Radiator panels (x2)
6. Energy efficient CFL light bulbs (x4)
7. Low flow shower head
8. Tap aerators
9. Save-a-flush (x2)
10. Local cycle map
11. Spaghetti measurer
12. "No junk mail" sticker
13. Food bag storage clips (x2)

What next?

There are a number of other measures that can be funded through the Zone:

- insulation
- new boiler
- dimmable low-energy light-bulbs
- renewable energy installations (solar PV or thermal, heat pumps, wood-burning stoves)

Insulation: in the Zone, all the previous government-funded home insulation schemes are being consolidated into a single package. This means that residents do not have to apply separately for CERT and Warm Front funding. Details of the funding from the Zone to cover the costs of insulation for householders are:

Payback table – indicative purposes only

Technology/measure	Cost without LCZ subsidy	Cost with LCZ subsidy	Payback time without LCZ funding	Payback time with LCZ funding
Cavity wall insulation	£250 ²	£50	2 years	6 months
Boiler jacket	£10-15	£0	6 months	0 years
Solid wall insulation (internal)	£5500-£8500	£5135-£8135		tbc
Solid wall insulation (external)	£10500-£14500	£10135-£14135		
New A-rated boiler	£3300	£3100	4 years	3.75 years
Loft insulation	£250	£50	2 years ³	4 months
Draught proofing	£200	£175	2.5 years	2.25 years
PC standby savers	£20	£0	9 months	0 months
Radiator panels	£4 each	£0	1 yr 7 months	0 months
Solar thermal	£4800	-	20 years	-
Solar PV (1kWp)	£5500	-	10 years	-
Ground source heating	£7000-£13000	-	-	-
Air source heating	£5000-£9000	-	-	-
Wood burning stove	£5800	-	-	-

All figures derived from EST data and the author's calculations.

For more information on insulation, go to the National Insulation Association website:

<http://www.nationalinsulationassociation.org.uk/houholder/houholder-nia.html>

What else...?

Water efficiency

Did you know that?

- The UK has less available water per person than most other European countries.
- London is drier than Istanbul, and the south East of England has less water available per person than Sudan and Syria
- Saving water will not only save the environment, but if you are on a water meter it will save you money on your water bill, and it will save you money on your energy bill if you reduce your hot water consumption.
- Climate change projections suggest that by 2040, we'll get a third less rainfall in the summer than we do now. Although winters will be wetter, we don't have enough places to store water all year round. Currently, rainfall varies from year to year - 2006 was a drought year, but 2007 saw plenty of rainfall and reservoirs were full. This variation will continue in the future.
- Most of the water we consume is used for washing and toilet flushing, but it also includes drinking, cooking, car washing and watering the garden. We use almost 50% more water than 25 years ago, partly because of the use of power showers and household appliances.

Around 30% of the average household gas bill is spent on heating water and your energy bills could be even higher if you use an electric immersion heater.

By saving water you'll be saving energy, reducing your home's carbon dioxide emissions and helping to fight climate change.

Water-saving tips

Here are some handy hints for saving water inside the home:

Snub the tub

If everybody in a four person family replaced one bath a week with a 5 minute shower, you could save between £5 and £15 per year off your energy bill. So, opt for short, refreshing showers on a daily basis and keep baths to a minimum.



Fill `em up!

Make sure that your dishwashers and washing machines are full before putting them on and always use the most water and energy efficient settings. When it's time to replace your appliance, look for Energy Saving Recommended logo. Products with this logo will save both energy and water.

Suds law

Using a bowl to wash up rather than leaving the hot tap running could save around £25 a year on a household's gas bills, if you wash up twice a day. If you must rinse, wash up or prepare vegetables in the sink, use cold water where possible and don't keep the tap running!

Go off the boil

Only boil as much water as you need to avoid unnecessarily heating water you won't even use!

Make it go further

Where possible try and reuse unused water, for example pour

your left over glasses of water on houseplants and avoid wasting water from running taps whilst waiting for hot water.

Don't be a drip

A dripping tap can waste over 5,000 litres of water a year so make sure your taps are properly turned off and change washers promptly when taps start dripping.



Turn it off

A running tap wastes over 6 litres of water a minute so turn off the tap whilst brushing your teeth, shaving or washing your face and use cold water where you don't need hot.

Here are some top tips for saving water outside the home:

Get your butt in gear

Your roof collects tens of thousands of litres of water each year, which then just runs straight into the drains. Invest in a water butt and use the water to water your garden, houseplants and wash your car. Rainwater is better for plants than tap water as it is softer.

Bucket the trend

Avoid jet washes and energy wasting auto car washes. Use the water (preferably from your water butt) to wash your car using a good old bucket and sponge!

