

TURNERS HILL LIVE PROJECT

Going Carbon Neutral

SUSTAINABILITY

What is sustainability?

'Development which meets the needs of the present without compromising the ability of future generations to meet their own needs'

(Brundtland 1987).

'Try and leave this world a little better than you found it.'

(Baden-Powell)

There are three elements of sustainability; environmental, social and economic. Environmental sustainability is about reducing the impact we have on our planet. Social sustainability is about meeting the needs of communities. A sustainable economy is one that provides prosperity and opportunities for all.

Why is environmental sustainability important?

A useful way of thinking of it is that if everyone in the world lived like the average European we would need three planets to support us. We only have one planet so it is important that we look after it. It is human activity and consumption that are the major drivers of carbon emissions. So we are the ones who must provide the solutions.

What can we do?

We won't focus on the threats of climate change, but rather on the benefits of taking action.

Energy and healthy homes

Water

Transport

Waste

Food

We want our children and future generations to know that we tried to do our bit to stem global warming.

'Never doubt that a small group of thoughtful committed citizens can change the world; indeed, it is the only thing that ever has.' -

Margaret Mead

TOP TIPS FOR ENERGY SAVING

- 1 Only boil as much water as you need.**
- 2 Turn down your thermostat by 1° C.**
- 3 Don't leave appliances on standby.**
- 4 Replace light bulbs with low energy ones.**
- 5 Wash at 30° C.**
- 6 Dry clothes outside on good days.**
- 7 Turn off lights when you leave a room.**
- 8 Switch to a green energy supplier.**
- 9 Make sure your home is well insulated.**
- 10 Buy energy saving appliances.**
- 11 Buy locally grown produce**
- 12 Use cloth bags instead of plastic**
- 13 Re use items like plastic bags and recycle as much as you can**
- 14 Don't leave the tap running while you clean your teeth.**
- 15 Buy environmentally friendly products when improving your home**
- 16 Compost your garden and /or kitchen waste**
- 17 Fill unused space in your freezer with bread or crumpled up newspaper**



Energy and healthy homes

Call your local Energy Saving Trust advice centre on 0800 512 012 for free, impartial advice on making your home more energy efficient. They will also be able to tell you if you are eligible for a grant or discount.

With rising fuel prices now is a good time to generate your own renewable energy. You can apply for a grant of up to £2,500 to install a solar panel or a biomass boiler.

Appliances such as televisions still use up to 90% of their required energy when on standby so turn appliances, such as televisions, DVD players and stereos, off at the plug, instead of leaving them on standby.

Turn mobile phone and laptop chargers off as soon as they are charged. Chargers continue to use energy, even after your appliance has been fully charged.

Turn off microwaves at the plug until you need to use them. Microwaves use electricity 24 hours a day, mostly just to run the clock!

6% of all domestic energy in this country is used to power appliances on standby, which means that if we all stopped, we could close down a whole power station!

You can save around 10% on your fuel bill by turning your thermostat down by 1°C. If you're cold, consider putting on a jumper or some socks before you turn up the heating or put the fire on.

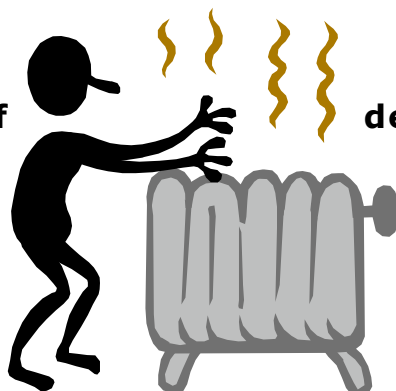
Double glazing cuts heat loss through windows by 50%.

Find out how much you can save at the [Energy Saving Trust](http://www.energysavingtrust.org.uk/). <http://www.energysavingtrust.org.uk/> or call their advice line 0800 512012

Brennenstuhl current/wattage meters are a simple plug in device which measure the power consumption and running costs of electrical items

HEATING

Defra has a lot of efficiency



detail about boilers and

<http://www.sedbuk.com/cgi-local/dynamicv.cgi?page=boiler8>

Here a few of the assumptions made when calculating savings from boilers

High efficiency condensing boilers convert more than 88% of their fuel into heat, compared to 78% for conventional types.

Is your boiler energy efficient? If it's 10-15 years old then it probably isn't. Replacing your old boiler with a new high efficiency condensing boiler will save you around a third on your heating bills straight away.

If you're fitting a new kitchen or bathroom, why not minimise cost and disruption by installing a new high efficiency condensing boiler at the sametime.

By law, from 1st April 2005 onwards, most new gas boilers fitted in England and Wales must be high efficiency condensing boilers (with a few exceptions depending on suitability). High efficiency condensing boilers can be easily fitted to most new and old heating systems, ask your installer for more details.

And that's not all... If you install the right heating controls, you could save up to 40% on your fuel bill - that's about £150 - £180 off the average bill.

SOLAR ELECTRICITY – PHOTOVOLTAICS (PV)



PV is the name given to solar panels that use energy from the sun to generate electricity, which can then be used to power lighting and appliances within your home. PV uses daylight to create electricity and so does not need direct sunlight to operate. If you own a calculator it is very likely that you already own a PV system, as most modern calculators are powered by a small PV panel. As well as generating electricity in your home, PV can be used to power small appliances such as torches and bike lights and can even be used to charge mobile phones and i-pods!

The Department of Trade and Industry currently give 'average' system prices as £4,000 to £9,000 per kW, although solar tiles may be more expensive.

LIGHTING

Fit all the lights in your house with energy saving light bulbs and you could save around £600 over the lifetime of the bulbs.

Traditional light bulbs use only 10% of the energy they drain for light – the remainder is used in heat.

Replace bulbs individually – as a traditional bulb goes, replace it with 1 energy saving light bulb, to spread the cost.

These bulbs have improved significantly over the past few years. You can now buy them at local DIY stores and there are more designs available, from small candle designs, through to dimming bulbs and even low energy halogen bulbs for spotlights. Visit:



http://www.energysavingtrust.org.uk/energy_saving_products/types_of_energy_saving_recommended_products/energy_saving_light_bulbs

TURN OFF LIGHTS WHEN YOU LEAVE A ROOM

Want an easy change to make? Then switching off the light when you leave the room is probably the easiest.



The less time you spend with the lights on, the more energy you save. A normal bulb will use 60 watts of energy an hour, meaning that you could conserve nearly 22,000 watts of energy per year by just switching off one bulb for one hour every day. That's enough energy to power one month worth of evening TV viewing!

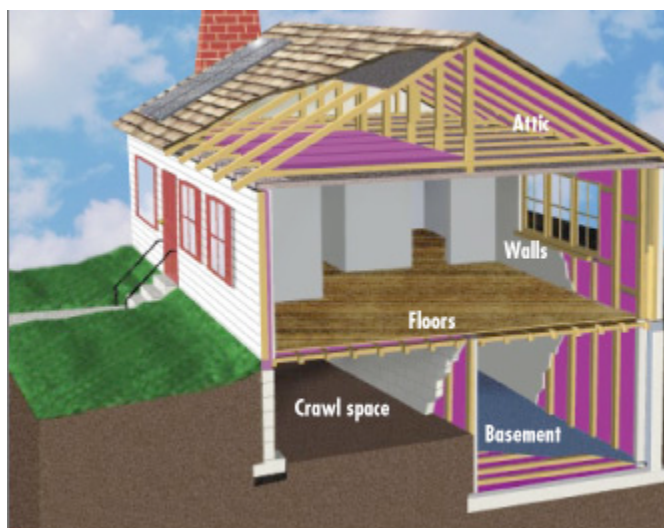
Also think about how many lights you need on, or if at all. If there is plenty of natural sunlight to see without being uncomfortable, then switch it off! Are you casting light over an area of the room or using outside lighting that is not needed?

By making small changes like this you'll soon be saving energy and money.

INSULATION

Make sure your home is well insulated.

Energy used in homes is responsible for more than a quarter of the UK's carbon emissions, and 80 per cent of this is for heating. Turning down your thermostat, good insulation and more efficient boilers can help tackle climate change, reduce local air pollution, cut fuel bills and can add value to your home. Adding insulation in the areas shown above may be the best way to improve your home's energy efficiency.



Nearly half of the heat in a typical home is lost through the walls and roof.

Draught proofing windows, doors and your loft hatch (if you have one), for an outlay of £40 you will save about 100 kg of CO₂ and around £12 a year.

Make sure your loft insulation is at least 200mm thick, if you do this yourself it will cost you less than £100. A poorly insulated loft could be losing you up to 25% of your heating

Installing roof and wall insulation could save you £400 per year in energy costs

Cavity wall insulation is a fantastic way to significantly reduce the amount of energy you need to heat your home. The average house could reduce heating costs by over a third. In fact, between 2002 and 2005 around 800,000 households installed cavity wall insulation. It is estimated that this will have saved nearly 400,000 tonnes of CO₂, enough to fill the new Wembley Stadium 47 times.

Grants might be available for insulation – ask your supplier or fitter.

Put a jacket on your hot water tank – a good insulating jacket can reduce heat loss by up to 75%. They are available from most DIY shops and cost just a few pounds which you should recover within a year from the savings made.

COOKING

Cover your pans when you cook. This can reduce the energy needed by up to 90%!

Boil only the amount of water you need. Every cup you boil represents 25 cups of CO₂ released.

Use the right size pan for the food and cooker ring (the base should just cover the cooking ring) if you can see the heat (either the electric ring or the gas flame up the side of the pan) it's too big and is costing you money.



Make sure all food is cooled down before it goes in the fridge or freezer. Defrost your freezer regularly to keep it running efficiently and cheaply. Put your fridge in the coolest place you can and if it has to go near any warm appliances (such as cookers or boilers) leave a good gap between them.

WASHING

Washing clothes at 30° C instead of a higher temperature can use around 40% less electricity. Modern washing powders and detergents work just as effectively at lower temperatures so, unless you have very dirty washing, bear this in mind.



Another easy energy saver is to always wash a full load and, where you can't, use a half load or economy programme instead.

If you are buying a new appliance, look for the Energy Saving Recommended logo. An Energy Saving Recommended washing machine can save you up to £10 a year on your electricity bills and 34 kilograms of CO2.



If everyone in the UK replaced their old washing machine with an Energy Saving Recommended model over 400,000 tonnes of CO2 could be saved, enough to fill more than 2 million double decker buses!

If you are able to, and the weather is good, then dry your clothes outside and leave the tumble dryer for damp days only.

If you are using a tumble dryer then use it with a full load as the machine uses the same energy whether full or not, unless your machine has a half-load or economy programme.

Wring out or spin-dry really wet clothes before putting them into a tumble dryer as this will save you money, and the laundry will dry faster.

GREEN ENERGY

There are energy suppliers that use renewable energy for their power generation. Switching to a green tariff for your electricity means you are using green energy. Power sources with no climate change effect can come from the wind, water and sun, or from crops that absorb carbon when they grow which balances out the emissions produced when they are burned.

You can help to reduce the nation's emissions by switching to green energy. It's simple to do and should not cost you any more than your current supply (sometimes a few pence!). But it means that money from your bills will go towards building new renewable energy sources.

BUY ENERGY SAVING APPLIANCES

Next time you are thinking about buying a new appliance look out for the Energy Saving Recommended logo. It can be found on dishwashers, boilers and even light bulbs.

It's your guarantee that these products are the most energy efficient in their category, will cost less to run and help prevent climate change.

Other products that carry the logo include insulation, light fittings, heating controls, glazing, integrated digital televisions (IDTVs) and kitchen appliances like fridges and washing machines.

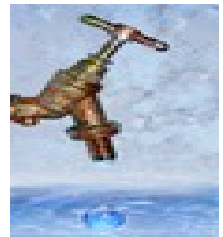


On the Energy Saving Trust website there is a database which can help you find appliances that carry the Energy Saving Recommended logo, the web address is:

<http://www.energysavingtrust.org.uk/proxy/view/full/407/recommendedproducts>

WATER

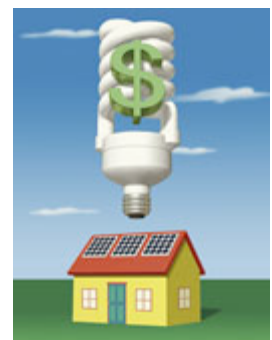
Flushing the toilet accounts for about a third of all the water we use in our homes. Install an easy to fit 'save-a-flush' bag and you'll save one litre of water each time. Call 0800 027 6152 for a free information pack along with a 'save-a-flush' bag. For some great ideas on saving water take a look at <http://www.waterwise.org.uk/>



According to water regulator Ofwat - an average bath costs about 15 pence to fill, a toilet flush about 1.5p, a machine wash about 11p and an hour using a hosepipe about 95p. People don't often know that!

Don't forget to turn the tap off
Don't leave taps running while you clean your teeth
Don't leave dripping taps unattended to

Consider solar water heating which can be used for domestic property and swimming pools. You can provide 50% to 60% of your demand for hot water using solar heating. The typical installation cost is £3,200 - £4,500 and grants are available. Details on the energy saving trust web site.



TRANSPORT

Every journey of less than 3 miles that you decide not to use the car for will save about 2 kg CO₂. Walk or cycle instead and it will improve your health and your waistline.



When you are using your car drive with style, keep your distance and minimise the amount of breaking and accelerating you have to do. This is a much more efficient way of making your car do more miles to every litre you pay for. In fact it can save you about 13% of your fuel costs.

If you can't get out of your car, do your bit by 'eco-driving'. By driving at 70mph you could be using up to 15% more fuel than at 50mph.
<http://www.dft.gov.uk/actonco2/>

The UK Government's www.vca.gov.uk/ has also published lots of data about vehicles and efficiency and the information in the link below is taken from their websites. On this site you can find the 10 best petrol and diesel cars, in terms of CO₂ emissions.

To find out the best way to complete your journey by other means go to www.transportdirect.info

WASTE

STOP JUNK MAIL It's simple to stop junk mail filling your bin and it will save our postman's back – just call the mailing preference service on 0845 703 4599 and they'll make sure you are taken off junk mailing lists!! Or visit www.mpsonline.org.uk.

Recycle old printer cartridges and mobile phones for charity by leaving them in the box provided at The Ark.



Recycle old computers – try www.computersforcharities.co.uk



Use your recycling wheelie bin for plastic bottles, glass bottles and jars, food and drinks cans, aerosols, newspapers and magazines, junk mail and envelopes, food boxes, cardboard, telephone directories, scrap paper and tetra packs.

Large and bulky household items can be collected, for a fee, by Mid Sussex District Council. You can take these items to the household waste and recycling sites as well. Don't forget the Parish Council provides a mobile refuse freighter four times a year which will take lots of your additional refuse.

Garden waste

Contact Mid Sussex District Council for a wheeled bin or biodegradable paper sacks which they will collect every two weeks. There is a charge for this service but garden waste collected will be composted locally. For further information go to www.midsussex.gov.uk/recycling



Home compost bins are available, at prices subsidised by West Sussex County Council, from Recycle Now. Call 084500770757 quoting reference HCA2 or go to www.recyclenow.com/compost

FOOD

Choose locally grown food that is in season. Support our farmers and choose produce with the Union Jack. Does it really make sense to buy 'fresh' green beans that have been grown and flown in from Kenya in summer?

Buying locally reduces processing and packaging of produce. It boosts the rural economy and encourages quality, healthy eating with freshly picked seasonal fruit and vegetables.

If you don't have enough space in your garden to grow vegetables, grow them in containers. From carrots and salads to peppers, potatoes and beans there isn't much that won't grow well in a container.

Salads and herbs thrive in relatively shallow containers; a depth of as little as 15cm (6in) can give good results. Onions and root vegetables do better with a soil depth of 30-45cm (12-18in) or more. Plastic tubs of 60cm (2ft) or larger can be purchased cheaply from DIY stores and builders merchants – just drill a few holes in the bottom. Even spent compost bags can be used and are perfect from growing potatoes.

See www.tuppenybarn.com for more information.





PLANTS

Try using house plants as indoor air purifiers. According to NASA the three top plants to use are:

Areca palm

Lady palm

Bamboo palm



Other plants which work in the same way are:

Peace lilly

Florists mum

Wax begonia (this can indicate dry air when leaves turn brown)

PLANNING:

New regulations came into force on 6th April 2008 which made it a lot simpler to install certain renewable energy technologies such as solar panels and biomass boilers. Permitted development rights have been extended to allow these installations without the need for planning permission.

Solar PV and solar thermal (roof mounted) are permitted unless:

Panels when installed protrude more than 200mm

They would be placed on the principal elevation facing onto or visible from the highway in buildings in Conservation Areas and World Heritage Sites.

Solar PV and solar thermal (stand alone) are permitted unless:

More than 4 metres in height

Installed less than 5 metres away from any boundary

Above a maximum area of array of 9 meters squared

If in doubt check with the Planning Department at Mid Sussex District Council, 01444 458166.

USEFUL LINKS

General

<http://www.dft.gov.uk/ActOnCO2/>
<http://www.carbontrust.co.uk/aboutCT.html>
<http://www.climatecare.org/>
<http://www.myfootprint.org/>
<http://www.forumforthefuture.org.uk/default.aspx>

UK Government

<http://www.defra.gov.uk/science/what/climate.htm>
http://www.climatechallenge.gov.uk/communicating/the_story.html
<http://www.ukcip.org.uk/>
www.direct.gov.uk/en/index.htm

Energy (grants and information)

www.clear-skies.org/
www.oneplanetliving.com
www.energysavingtrust.org.uk
www.lightingassociation.com
www.greenbooklive.com
www.10percentchallenge.org.uk
www.ecohomes.org

Cavity Insulation

www.ciga.co.uk/

Gas

www.trustcorgi.com/consumers.htm

Wind

http://www.energysavingtrust.org.uk/generate_your_own_energy/types_of_renewables/microwind
www.bwea.com

Water

www.environment-agency.gov.uk
www.waterwise.org.uk

Biomass

<http://www.biomassenergycentre.org.uk/portal>

Recycling and Composting

<http://www.evengreener.com/>
www.recyclenow.com
www.lovefoodhatewaste.com
www.freecycle.org
www.frn.org.uk
www.midsussex.gov.uk/

Food

www.localfoodworks.org

www.wsgreenclub.org

www.gardenorganic.org.uk/

www.tuppenybarn.com

www.vegboxschemes.co.uk

Planning

www.planningportal.gov.uk

Transport

www.transportdirect.info

www.travelfootprint.org

www.westsussexcarshare.com

www.carclubs.org.uk

