Greening Your Home

Help the Environment, Save Energy, Water and Money.



www.cambridge.gov.uk

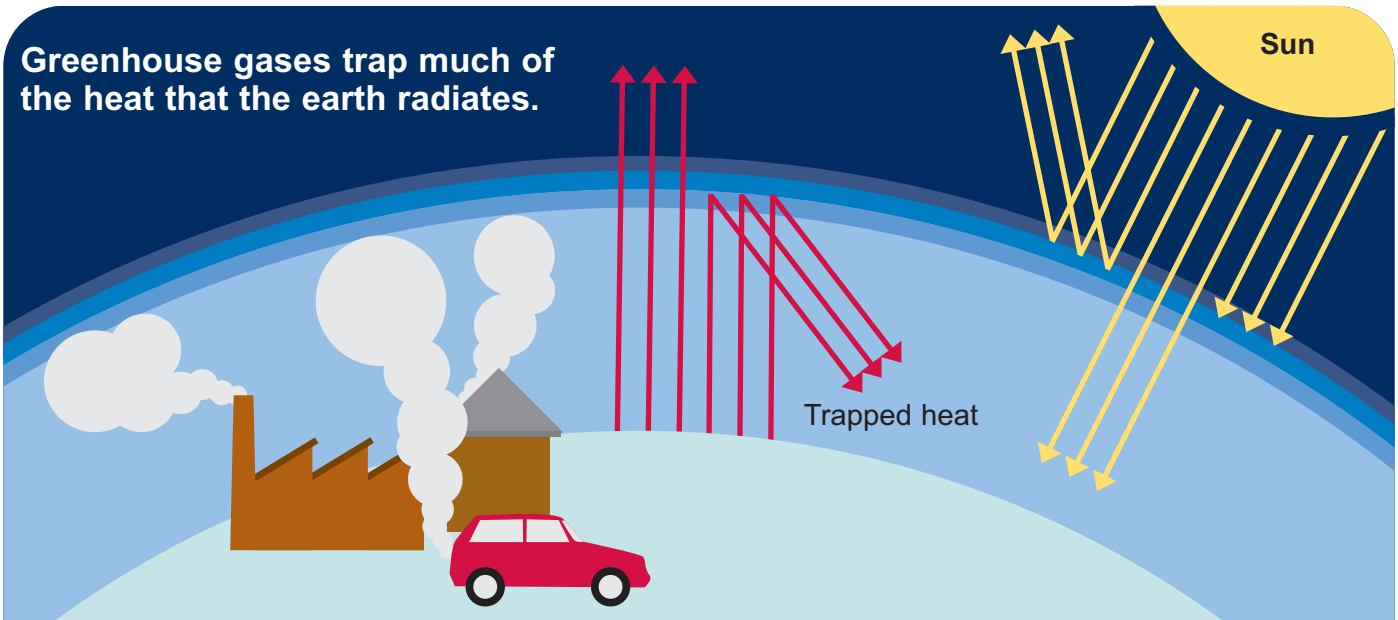
CAMBRIDGE CITY COUNCIL

Introduction

Whatever type of home we live in, we can all take actions to make them greener, healthier and more comfortable places to live. Greening Your Home will provide you with the information you need to make your home and lifestyle greener. Positive changes can be made in many ways, from changing a light bulb or your boiler to larger scale renovation works, or installing renewable energy.

The information in this guide will help you to:

- Save money
- Save water and reduce water pollution
- Reduce your household waste
- Make greener choices
- Live in a healthier, more comfortable home
- Improve your garden and enhance biodiversity
- Find sources of funding for greening your home



Climate Change

There is now overwhelming agreement that climate change is occurring and that there has been a rise in temperatures in the last 30 years. This is largely due to the increase in greenhouse gas emissions that trap the earth's heat. Over the last 200 hundred years, the burning of fossil fuels – coal, gas and oil – has increased the concentration of the greenhouse gas Carbon Dioxide (CO_2) by one third.

The current prediction is that by 2080, temperatures in Cambridge could rise by between 2°C and 6°C, that summers will be drier (rain fall could drop by up to 60%), and winters will be wetter (rainfall could rise by up to 30%). The result could be water shortages in the summer and wetter winters with an increased risk of flooding. A significant amount of greenhouse gas emissions originate from generating the energy we use to heat, light and power our homes, and we are increasingly running a greater number of household appliances. This energy use produces 27% of the UK's CO_2 emissions. We can all do our bit to help reduce this by being energy and resource efficient, and making small changes to how we do things.

Contents

Saving Energy in the Home 5
Keep Heat Indoors 5
Insulation 5
Ventilation 7
Draught Proofing 7
Windows 7
Take Control 7
Radiators 8
In the Living Room 8
In the Kitchen 8
Lighting 8
Swap 8
Condensing Boilers 8
Appliances 8
Energy Supplier 9
Generate Your Own Energy: Renewable Energy 9
Solar Energy Systems – Solar PV and Solar Thermal 9
Low Carbon Energy – Ground and Air Source Heat Pumps 10
Biomass 10
Wind Energy 11
Local Advice, Grants and Funding 12
Planning Permission and Permitted Development 13
Further Information: Energy 14

Saving Water 15
Minimise Water Waste 16
In the Bathroom 16
In the Kitchen 16
Install a Water Meter 16
Replace Fixtures and Fittings 16
Re-use Water 16
Reduce Embedded Water 17
Controlling Rainwater Run-off 17
Sustainable Drainage Systems (SuDS) 17
Living Roofs 18
Water Treatment 18
Reduce Water Pollution 18
Further Information: Water 19

Eating Sustainable Food 20
Reduce your Food Footprint 20
Buy British 20
Buy Local Produce 21
Reduce Your Food Waste 21
Support Community Food Projects 21
Grow Your Own Food 22
Forage for Free Food 22

continued>

Support Ethically Produced Food 23
Buy Fairtrade Food 23
Avoid Palm Oil 24
Buy Organic 24
Buy Free Range 24
Buy Sustainably Sourced Fish 25
Further Information: Eating Sustainable Food 25

Efficient Use of Resources 26
Reducing Household Waste 26
Kerbside Recycling Collections 26
Public Recycling Points 27
Recycling Centres 28
Bulky Waste and White Goods Collections 28
Real Nappies 28
Greener DIY and Decorating 29
Paints and Finishes 29
Wood 29
Insulation 29
Flooring 30
Greener Upgrades, Extensions and New Builds 30
Building Materials 30
Windows 30
Reduce Construction Waste 30
Further Information: Resources 31

Using Sustainable Transport 32
Drive Smarter 32
Car Sharing 32
Zipcar 32
Try Public Transport 33
Get Cycling 33
Cycle Training for Children and Adults 33
You Can Bike Too 33
Cyclestreets 34
Buggy Hire Scheme 34
Travel for Work Partnership 34
Walk the Walk 34
Walkit 34
Walking for Health 35
Big Walkies 35
Further Information: Using Sustainable Transport 35

Greening Your Garden 36
Make Room for Wildlife 36
Organic Gardening 38
Water Use in Your Garden 39
Composting 39
Balconies, Roof Terraces and Window Boxes 39
Front Gardens and Off Street Parking 40
Further information: Greening Your Garden 41

Glossary Containing definitions of words highlighted in **bold** throughout this document 42

1 Saving Energy in the Home

Introduction

The energy we use in our homes has a large impact on the environment. Almost all the energy we use in heating, lighting, cooking, and powering our computers and household appliances comes from **fossil fuel** sources such as gas, coal and oil. Burning fossil fuels releases **CO_2** which contributes to **climate change.**

By properly insulating our homes and altering the way we do things we can reduce our energy demands and create more comfortable homes in which to live. Straightforward measures ranging from closing curtains at dusk to installing condensing boilers and low energy appliances can reduce your household's energy use and CO_2 emissions significantly. And it pays to make these changes; reduced energy use can mean lower energy bills!

Once your home is properly insulated, your heating system is running efficiently and you've got into good energy habits, you might want to consider installing a renewable energy system to generate your own heat and light.

Some of the measures mentioned in this section may involve building work or change how your home looks, which may require inspection or need special permission. These are highlighted with a (P) symbol. You can find out more about these measures on page 13.

Keep Heat Indoors

Insulation is one of the most important of all energy saving measures. Heat is lost through the roof, walls, floor and windows. The more heat that is lost from a building, the more energy and money is needed to keep it warm.

Insulate Your Roof and Loft Space



Image: www.lyndseyyoung.co.uk

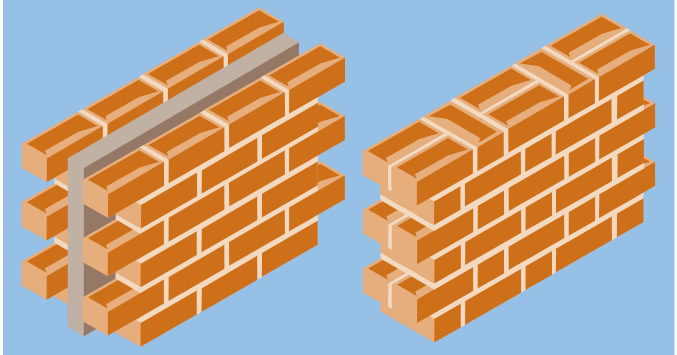
Fitting proper loft insulation is the most cost-effective way of saving energy. The current recommended depth of loft insulation is 270mm (10.5 inches). The cheapest option is to fit the insulation yourself (wear protective gloves and a mask). Alternatively have a professional installer do it for you. Prices vary depending on the amount needed and the type of material used, e.g. **mineral wool** or sheep's wool. You may be eligible for discounted insulation through the Government's Green Deal initiative.

See page 12 for more information.

Insulate Your Walls

Walls are probably responsible for the largest amount of heat loss (up to 50%), depending on other insulation and the shape of your home and windows. Wall insulation should be carried out by a qualified installer. The way you can insulate depends on the type of walls your home has – either cavity wall or solid wall insulation.

Wall Types



Cavity Wall Solid Wall

Cavity Wall means the wall has a gap between the inner and outer wall. Insulating the gap is a cheap way of reducing heat loss. Most homes built after 1930 will have cavity walls, but an insulation installer can check that for you for free. Their work should be guaranteed for 25 years under the CIGA guarantee (Cavity Insulation Guarantee Agency), and they should provide you with a certificate on completion of the work.

For more information, visit www.ciga.co.uk



Image: Aran Services

Solid Wall insulation is more complicated and expensive, and can be achieved through internal or external wall insulation. Internal wall insulation involves fitting battens and plasterboard on the internal side of the wall, which will mean you lose a few inches of floor space in those rooms and they will need re-decorating.

External wall insulation involves adding a layer of weatherproof render or cladding to the outside of the wall. P

Many homes in Cambridge are of solid wall construction. Transition Cambridge has a useful page answering frequently asked questions about solid wall insulation on its website.

For more information, visit www.transitioncambridge.org and go to the page on Energy.

Top tip:

If you have radiators on outside walls you should have some reflective foil behind them to reflect heat into the room, rather than into the wall. You can buy thin insulating panels with foil backing quite cheaply from DIY stores, or even kitchen foil stuck to cardboard would do.

Insulate Your Hot Water Tanks and Pipes

If you have a hot water tank, make sure it is insulated to keep the water hot for longer. If your tank has less than 75mm of insulation, fit another jacket over the existing one, or replace it with a newer, thicker jacket.

Modern, efficient hot water tanks often come with a layer of sprayed-on foam insulation, usually green-coloured. If your tank looks like this then it won't need an extra jacket.

Insulate pipes if you can – especially between the boiler and the hot water cylinder, and pipes in the loft to stop them freezing and bursting in very cold weather.

Ventilation

Ventilation is essential to help prevent condensation and to cool your home during hot spells. Basic ventilation (opening windows or trickle vents in double glazed windows) is usually sufficient for bedrooms and the living room.

Extractor fans are recommended for kitchens and bathrooms, especially for en-suite bathrooms or in flats where there isn't a window in the bathroom.

Draught Proofing

Draught proofing is a cost effective way to reduce heat loss. Draughts are most common around doors and windows, between floor boards, behind skirting boards and anywhere there is a pipe or cable going through to the outside of the building.

Top draught-proofing tips:

- Fix brush seals to exterior doors and letterboxes, and tape to ill-fitting interior doors
- Seal gaps between floor boards or under skirting boards with draught strip or tube sealant
- Seal up holes in walls where electricity cables, gas or plumbing pipes go through



Image: StopGap

Windows

Windows control how much of the sun's heat and light is let into your home, but they can also let a lot of heat out when temperatures are colder outside than inside.

Top tip:

Keep windows clean to let in as much free light and heat energy from the sun as possible.

Reduce heat loss through draughty, single-glazed windows relatively cheaply and easily by fitting draught-proofing strips; sealed blinds; heavy curtains or secondary glazing.

Double glazed windows with broken seals causing condensation and damp problems can be repaired, but it may be more cost effective to replace the entire window with a new double glazed unit. Double glazing can cut heat loss through windows by 50%, reducing the need for room heating. They can also cut down on noise and condensation. P

Double glazing typically uses **low-e glass**, which can significantly reduce heat loss. The transparent coating fused to the inner side of the glass reflects heat back into the room, acting like a thermal mirror, keeping warmth inside during the winter and heat outside during the summer. Low-E glass also screens out the sun's ultraviolet rays, which helps to reduce fading of carpets and curtains.

Take Control

Heating controls allow you to control the temperature in different parts of your home. These can include an electronic timer control for your boiler; a room thermostat for your main living area and thermostatic radiator valves (TRVs) on your radiators. A background temperature of between 18 and 21 degrees should be comfortable for most healthy adults. Adjust the temperature according to how active people are in the house, and how old they are; small children, the sick and elderly people may have difficulty regulating their body temperature.

- Time your heating and hot water to come on when you need them
- If you are healthy, try an extra layer of clothing or a hot drink before turning up the heating
- Install a water tank thermostat and set it at 60°C. You must heat your water to 60°C regularly to kill harmful bacteria, e.g. legionella

Radiators

It is very important that your radiators are working well, because they deliver heat into your room. Fix air locks, i.e. a 'cold spot' often felt at the top of the radiator, by turning off the heating and slowly releasing the air using a bleeding key on the bleeding valve.

The radiator pipe circuit can sometimes get 'silted up', making the system less efficient in delivering heat around the home. A heating engineer can flush the system and add a chemical to the water to prevent it silting up again.

In the Living Room

- Don't rely on stand-by, switch things off. That includes the TV, DVD, CD player and games consoles. Fit a 'Power Down' plug to a main device and when you turn it off, other devices connected to it, e.g. a TV and DVD player or PC and printer, are automatically turned off too.
- Unplug mobile devices from the mains once they are fully charged.

In the Kitchen

- Keep fridges/freezers as far away from heat sources (e.g. boiler, cooker) as possible.
- Wait until you have a full load in the washing machine or dishwasher.
- Use lower temperature settings on your washing machine, and dry clothes outside if you can instead of using a tumble dryer.
- Only boil as much water in as you need in the kettle, and descale it regularly - limescale means the kettle uses more energy.

Lighting

- Make the most of natural light by adjusting blinds and curtains.
- Turn off lights in empty rooms. In most homes lighting makes up 10 to 15% of the electricity bill.
- Swap any old light bulbs for CFL (Compact Fluorescent Lamps) or LED (Light Emitting Diode) lights. Look for the Energy Efficiency Recommended Logo on new light bulbs or light fittings.

Energy can also be saved on domestic security lighting. A 150 watt bulb is adequate for responsive security lighting rather than 250-300 watt usually sold. Solar-powered outside lights are also now widely available.

Swap

Using appliances and systems that are more energy efficient is a simple and very effective way of reducing energy use in your home. Below are examples of easy changes you can make to save money and energy.

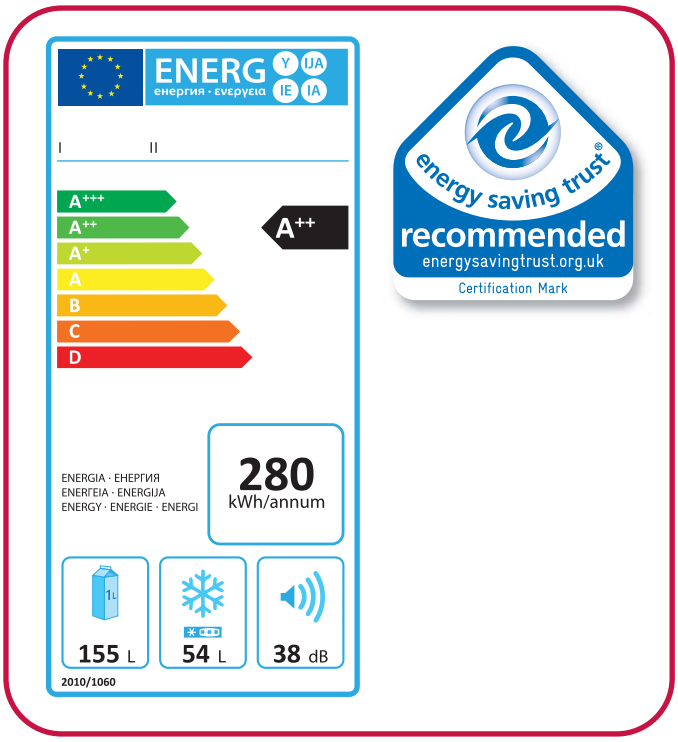
Condensing Boilers

Replacing an old boiler (more than 10 years old) with a high efficiency **condensing boiler** could reduce your heating bills by a third. The current lifespan of a boiler is 10-15 years, so a new condensing boiler would make a huge difference to your heating bills over time. An energy efficient condensing boiler converts more than 92% of its fuel into heat, compared with 'standard' boilers that convert 65% to 85% (*www.sedbuk.com*).

It is very important for your safety and the efficient running of your heating system to have your boiler serviced regularly by a qualified heating engineer.

Appliances

Modern appliances are generally more efficient than older models - they use less energy so they cost less to run. Look for the Energy Saving Trust Recommend logo or an EU Energy Rating Certificate on household appliances. Under the EU ratings you should look for an 'A' rating or better. For fridges and freezers there are now "A+++" rated models available. The most efficient models can be more expensive but they will cost less to run. The EU Energy Rating Certificate also tells you how much energy (**kWh**) the appliance will use in year.



Swap Energy Supplier

You could save money by switching over to a different energy supplier.

For free, impartial, independent pricing information on energy suppliers, visit www.uSwitch.com

You can also choose to change over to a supplier that guarantees an energy supply from renewable sources.

Collective Energy Switching

Cambridgeshire Energy Switch scheme, supported by Cambridgeshire County Council, uses the collective bargaining power of residents to bid for better prices for electricity and gas to save you money at a time of rising prices.

Residents who sign up to the scheme are collected together as one group or customer. Energy suppliers are given an opportunity to offer this collective group of residents a deal to provide their electricity and gas. There is no obligation to accept an offer from companies and the service is free of charge.

For more information email Cambridgeshire County Council via energy.switch@cambridgeshire.gov.uk or call the Big Community Switch free on 0800 0488285 weekdays from 8am until 5.30pm.

Make Your Own Energy

Renewable energy is obtained from sources that are essentially inexhaustible, unlike fossil fuels which are in limited supply. Renewable energy technologies in the UK include:

- solar photovoltaic (solar PV)
- solar water heating (solar thermal)
- heat pumps
- small scale wind turbines
- biomass heating systems.

Electricity and heating produced by fossil-fuelled power stations release high levels of **CO_2.** By comparison, a renewable or low carbon energy source has little or no CO_2 emissions.

Renewable and low carbon energy systems, when correctly specified, are as reliable as energy from more traditional sources and offer a number of positive benefits both for you and the environment:

- a local and reliable energy resource
- less dependence on fossil fuels
- lower emissions of carbon dioxide and other greenhouse gases
- a potential income through the Feed in Tariff and Renewable Heat Incentive (see the ‘Grants and Advice’ section for more information).

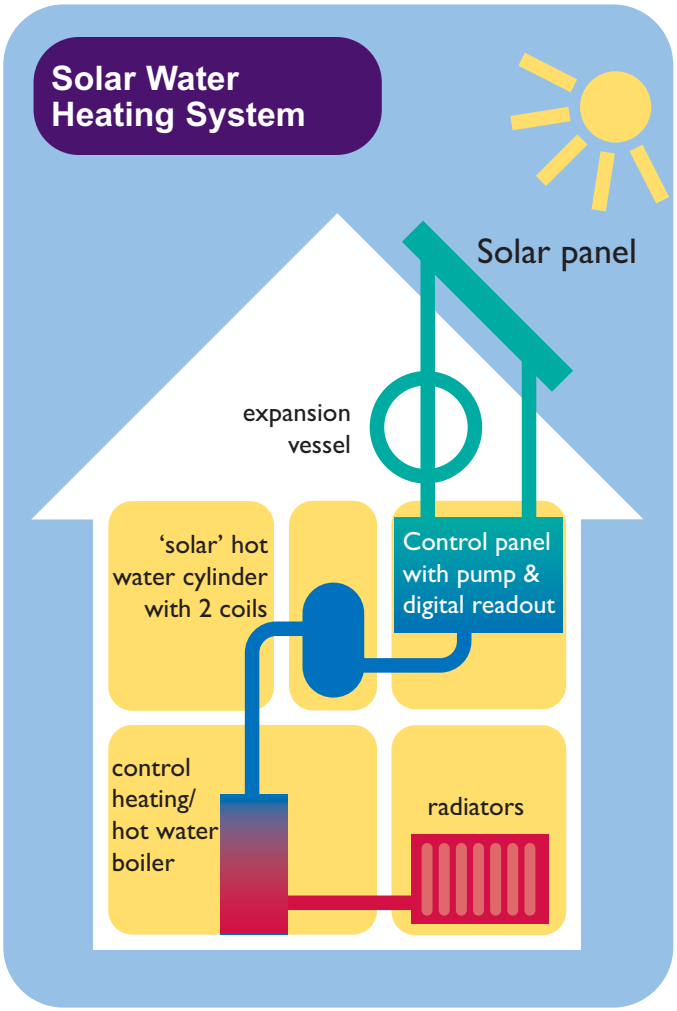
Solar Energy Systems (P)

You can make the sun work for you by installing special collectors to harness its energy. There are two main types of collector; solar thermal systems for heating water, and photovoltaic (PV) panels that generate electricity.

Solar Water Heating Systems

Solar panels fitted to your roof collect heat from the sun to heat up water stored in a hot water cylinder. A boiler or immersion heater can be used as a back-up to heat the water further to reach the temperature you want.

They are particularly appropriate in large family homes that use large quantities of hot water. A carefully designed system can provide up to 100% of your hot water needs through most of



the summer, and even in winter on a cloudy day could still provide up to 20% of the heat required for hot water. Current installation costs are around £3,000 per system (£1,500 if installed by DIY) but this is likely to decrease over time.

Photovoltaic Panels

Photovoltaic (PV) panels convert light energy into electric energy and need only daylight to work, rather than bright sunshine. PV systems vary, from grey 'solar tiles' that look like roof tiles to panels and transparent cells for use on conservatories and glass, providing shading and generating electricity.

For maximum efficiency PV panels should face south and away from any potential shading from chimneys, trees or neighbouring buildings.

Current costs for a roof panel system range from £5,500 to £9,500. Costs have fallen significantly in recent years with the introduction of the Feed in Tariff, and vary between installers and products, so get quotes from at least three installers.

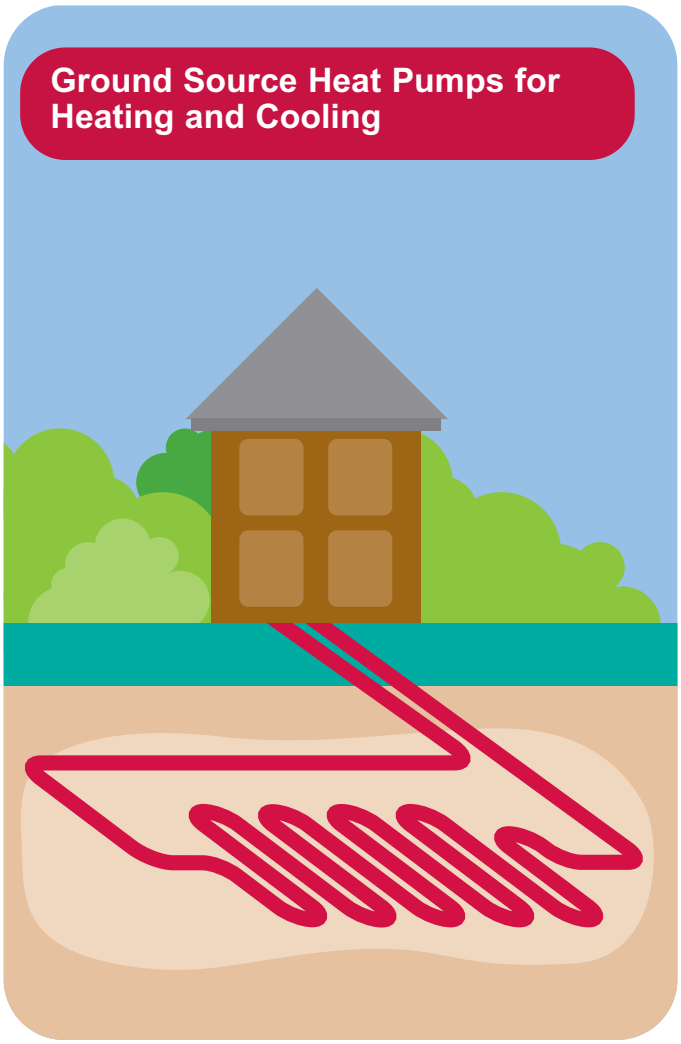
Low Carbon Energy

Ground Source Heat Pumps

Several metres below the surface the ground keeps a constant temperature of 11 to 13°C. In winter, this temperature is warmer than the air above it. Ground source heat pumps (GSHPs) use a loop of pipes filled with water and antifreeze buried in the ground to absorb this heat and transfer it through a heat exchanger into the heat pump, which delivers the heat around the building.

Once installed the systems are invisible and virtually maintenance free. For every unit of electricity used to pump the heat, three units of heat are produced. Installation costs vary between £9,000 and £17,000.

Environment Agency consent may be required for some types of ground source heat pumps. For more information, visit www.environment-agency.gov.uk



Air Source Heat Pumps

Air source heat pumps act in a similar way to ground source pumps, but absorb heat from outside air. This heat can be used to heat radiators, under floor heating systems or warm air convectors and hot water in your home. A typical air source heat pump system costs around £6,000 to £10,000 to install.

Both types of heat pump have some impact on the environment as they need electricity to run. In terms of lowering fuel bills, they are best used where they replace conventional electric heating or oil fired boilers. For the heating system to be effective it is essential that your home is insulated and draught-proofed. P

Biomass

Biomass can be logs, wood pellets and chips or pellets made from non-wood products. CO_2 is released when biomass burns, but this is balanced by the CO_2 absorbed while the material grows, resulting in a nearly **carbon neutral** process (processing and transport usually involve some fossil fuel and CO_2 emissions).

Biomass stoves provide local space heating fuelled by logs or pellets. Some models can be fitted with a back boiler to provide water heating. Stoves can be used as supplementary heating to reduce the need to run your central heating system or you can use them to provide all of your heating.

Biomass boilers connected to central heating and hot water systems may use pellets, logs or chips. Log burners require manual loading, while pellet and wood chip systems are automatic, but can be more expensive. Current costs range from between £1,500 and £3,000 for stand-alone room heaters to between £4,000 and £12,000 for automatic hot water/central heating boilers. Biomass boilers are typically 80% efficient or more.

If you are thinking of installing a biomass boiler, consider the following points:

- The flue must be specially designed for wood fuel appliances
- Ensure you comply with all safety and Building Regulations (see Part J of the Building Regulations)
- Check whether you are in or close to the city's Smoke Control Area – *visit www.cambridge.gov.uk/smoke-pollution for details.* P



Image: Cambridge Carbon Footprint

Please note that this information is correct at the time of publication and could be subject to change, so it is always advisable to check with the Planning Department.

Wind Energy

To work efficiently, wind turbines require a smooth, steady air flow. Their performance is dramatically affected by the local terrain, e.g. trees or buildings in the path of the wind. Wind energy potential can be low in most urban areas and this is certainly the case in Cambridge. The low average wind speeds we experience in the city make wind turbines an unsuitable alternative energy option for most householders.

When considering installation of any type of energy system, always get at least three quotes from experienced contractors, and ask for references. The performance of some

technologies can be severely restricted through poor specification and installation. All of the systems mentioned also require a degree of maintenance, the level and cost of which varies between technologies.

For more detailed information about the different technologies, visit the 'generating energy' section of the Energy Saving Trust website www.energysavingtrust.org.uk or call 0800 512012.

Local Advice

If you want to make your home more energy efficient, or install renewable energy technologies but don't know where to start get practical, impartial advice from other Cambridge residents through two of our most active environmental groups – Cambridge Carbon Footprint and Transition Cambridge.

Cambridge Carbon Footprint (CCF) is an award-winning environmental charity working to raise awareness of climate change issues and promoting practical solutions to help people live more sustainably. CCF offers friendly support and advice through its many innovative projects and programmes.

For more information visit www.cambridgecarbonfootprint.org, email info@cambridgecarbonfootprint.org or call 01223 301842.

CCF runs Open Eco Homes, an annual showcase of new and existing homes in and around the city that use the different energy saving measures and technologies mentioned in this publication. You can visit the properties and talk to the residents about all the aspects of installing efficient heating, lighting, insulation and renewable technologies.

For more information, and to see case studies of some of the properties, visit www.openecohomes.org.

Transition Cambridge aims to help Cambridge residents make the transition to ways of life that are more resilient in the face of rising energy prices and a changing climate.

For more information, visit www.transitioncambridge.org or email transitioncambridge@gmail.com.

Grants and Advice

Action on Energy

Action on Energy is a new council-backed scheme for Cambridgeshire, introduced to support the Government's Green Deal scheme, providing accredited assessments of homes, measures and installers. It gives householders access to the Green Deal offering to install a range of measures which could help to reduce their energy bills and make their homes more comfortable.

As many as nine out of ten homes in Cambridge could benefit from a range of home energy upgrades such as better loft and wall insulation, more efficient boilers, or a move to renewable energy.

Making the change to a warmer and cheaper-to-run home does not have to cost the earth. Action on Energy provides access to a variety of insulation grants that are not always income related. Those in receipt of a range of qualifying benefits may be able to use ECO (Energy Companies Obligation) funding to upgrade their homes at no or minimal cost. Under the Green Deal, householders can take out a loan to help pay for the measures and make repayments through bill savings.

For more information on Action on Energy, visit www.actiononenergy.net or call 0800 093 3303. Please quote 'AoECamCity003' when you email or call.

action on energy Cambridge

Feed In Tariff

The Feed in Tariff was introduced in April 2010 for renewable electricity technologies such as photovoltaic panels. Under this scheme, energy suppliers make regular payments to householders and communities who generate their own electricity. It guarantees a minimum payment for all electricity generated by the system, as well as a separate payment for any electricity exported to the grid. These payments are in addition to the bill savings made by using the electricity that you have generated yourself.

Renewable Heat Incentive

The Renewable Heat Incentive (RHI) is a Government scheme promoting renewable heat technologies such as solar hot water systems and heat pumps among householders, communities and businesses. The phase of the scheme covering homes was launched in the Spring of 2014. Similar to the Feed in Tariff, this scheme will provide regular payments to householders and communities who generate their own heat from renewable sources. The level of tariff will vary according to the technology used. To qualify for the RHI your system must be installed by an accredited installer and you must have an Energy Performance Certificate (EPC) for your house of grade D or above.

For further information on the Feed in Tariff and RHI visit the Energy Savings Trust website www.energysavingtrust.org.uk (P)

Planning Permission and Permitted Development

If you are carrying out development works to your home you may need planning permission from the Council, if:

- External wall insulation render or cladding will alter the appearance of the house
- You want to install windows of a different design to the existing ones
- Solar panels are installed above the ridgeline of the roof and project more than 200mm from the surface
- Ground level solar panels are more than 4m high; installed less than 5m from any boundary; or the overall size of the panels is more than 9m^2
- The height of a chimney flue (e.g. for a biomass boiler or wood-burner) would exceed the highest part of your roof by 1m or more.

In some cases, small domestic extensions and loft conversions to houses are 'permitted development' and so do not need formal planning permission. Permitted development rights may be affected if your property is a Listed Building or located in a Conservation Area.

Building Regulations

Whether or not you require planning permission for your work, you will usually need to obtain Building Regulation consent. This includes energy efficiency issues of:

- sound and thermal insulation
- ventilation
- flues and boilers
- conservation of fuel energy

While some elements of Building Regulations can be 'self-certified' by contractors, you may wish to check with the Council's Building Control department prior to carrying out any works.

For more information on permitted development rights and planning permission, visit the planning pages on the Council's website http://cambridge.jdi-consult.net/expsys/ or the national Planning Portal website www.planningportal.gov.uk/permission/commonprojects/extensions/

Informal officer advice is available from the Council's Building Control team via the duty planning officer system, from 10.30am-3pm every weekday at the Customer Service Centre in Mandela House, Regent Street, Cambridge CB2 1BY. Call 01223 45700 or email enquiries@cambridge.gov.uk

Listed Buildings and Conservation Areas

A number of the ideas in this guide can be used to enhance the environmental performance of historic buildings. However, the special character of these buildings, particularly those that are listed, needs to be considered. Some measures may not be appropriate for traditional buildings, e.g. modern insulation might affect the 'breathability' of a building.

English Heritage has developed the 'climate change and your home' website, which provides a range of practical advice for saving energy in older homes.

Visit www.climatechangeandyourhome.org.uk/live to learn more.

Any works that alter the character of a listed building require Listed Building consent, a separate process to obtaining planning permission. This would include internal works; re-facing external walls; replacing windows and installing external boiler flues.

Seek advice from the Council's Design and Conservation Team before you embark on any projects on listed buildings or those in conservation areas. Email planning.conservation@cambridge.gov.uk or call 01223 457200.

Further Information

The Building Research Establishment

The Building Research Establishment is an independent and impartial, research-based consultancy, testing and training organisation, offering expertise in every aspect of the built environment and associated industries. BRE can provide advice on integrating renewable energy sources into buildings.

Tel: 01923 664000
Email: enquiries@bre.co.uk
www.bre.co.uk

The Centre for Alternative Technology

The Centre for Alternative Technology is an education and visitor centre which demonstrates practical solutions for sustainability, covering all aspects of green living.

Tel: 01654 705950
www.cat.org.uk

Top10 Energy Efficiency Guide

The Top10 Energy Efficiency Guide provides an independent and impartial source of information on the most energy efficient products available in the UK. Using the Top10 guide will save you energy and money whenever you're shopping for an energy-using product in-store or online.

consumer.info@top10energyefficiency.org.uk
www.top10energyefficiency.org.uk

HETAS

The official body recognised by Government to approve biomass domestic heating appliances, fuels and services including the registration of competent installers and servicing businesses.

Tel: 01242 681270 or 0845 634 5626
Email: info@hetas.co.uk
www.hetas.co.uk

National Energy Foundation

National Energy Foundation provides information on how individuals and organisations can reduce their carbon emissions through energy efficiency and the use of sustainable energy sources. They have useful tips on energy efficiency and steps you can take to reduce your carbon footprint.

Tel: 0800 111999
www.nef.org.uk

Low Impact Living Initiative

Low Impact Living Initiative (LILI) provides factsheets on how to reduce your energy consumption and has specific information on ground source heat pumps, solar panels and solar water heating systems.

Email: lili@lowimpact.org
www.lowimpact.org

2 Saving Water

Introduction

Households account for 55% of all water used in the UK. On average we each use 150 litres of water per day. All of the water that comes in to your home is of drinking quality (or 'potable') – 35% of which is flushed down the toilet.

Nearly all of the drinking water in Cambridge is pumped from deep underground. This water also appears on the surface as a spring and feeds local watercourses such as Cherry Hinton Brook and Hobson's Brook.

Why Save Water?

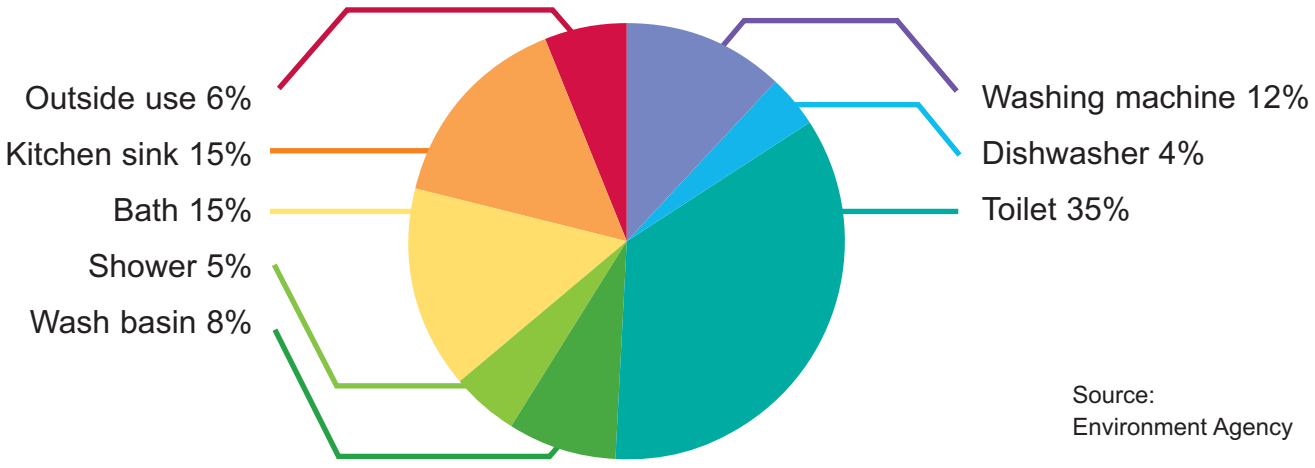
Water is the most precious of our resources – without it life itself would not exist. Around the world, drinking water is in short supply and so even here in Cambridge we must treat it with respect and use it wisely.

There are several factors that affect water availability in our region:

- **Low rainfall.** Rainfall in the East of England is only half the national average, and Cambridge is one of the driest parts of the region with less rainfall than even Barcelona or Rome. Extended periods of low rainfall can mean our reserves run low, and this is likely to become more common as a result of climate change.
- **An Increasing population.** Cambridge is a growing city and our population is increasing at a higher rate than in other parts of the UK. More people moving in to Cambridge means greater pressure on our water resources.
- **Our behaviour and use of water.** We are fortunate in having water available on demand piped directly into our homes. But it is easy to take for granted this access to clean drinking water and use more than our fair share. Whether it is overfilling a kettle or taking long showers, we all have little habits that waste water and the energy used in processing it.

Average Household Water Use

Waste water from showers, baths and washbasins can be used for toilet flushing.



Source: Environment Agency

Minimise Water Waste

There are many ways that you can reduce your water use at home, and you can look at ways of collecting water for use around the home and garden.

Simple changes to your lifestyle could also save you as much as £200 per year on your water bill, and having a water meter fitted will provide an extra incentive to keep an eye on how much you are using. Even if you are not on a water meter you could reduce your energy bill by around £100 by making these changes.

Save Water in the Bathroom

- Turn off the tap while brushing teeth or using the basin.
- Fit twin tap inserts to reduce the flow of water and save £44 on your metered bill.
- Repair dripping taps. A dripping tap can waste 5,500 litres per year.
- Place a 'hippo' water displacement device in your cistern to reduce the amount of water it holds, and use less water per flush.
- An average bath (or a power shower) uses about 80 litres of water. A conventional shower uses roughly 45 litres of water. Fit an aerating showerhead that adds air to a reduced flow of water to reduce this further.

Save Water in the Kitchen

- Use full loads in your dishwasher or washing machine. When replacing an appliance, buy one with a high level of water efficiency.
- Use the minimum amount of water required in saucepans or the kettle, and always use lids on saucepans to save energy as well as water
- Steam rather than boil vegetables.
- Wash fruit and veg in a bowl rather than under a running tap. The water could then be used for watering plants or flushing the toilet.
- Fit an aerator on your taps to reduce the water flow so that you can wash your hands with less water.

Install a Water Meter

Installing a water meter could save you money. Many people feel that metering is the fairest way to charge for water – similar to gas and electricity, paying for what you use. As a general rule, single occupants and couples or families



living in large houses with high rateable values tend to save the most by having a water meter. Most people use 10% less water once they have a meter installed, simply because they are more conscious of what they use.

For more information on water meters, visit www.cambridge-water.co.uk

Replace Fixtures and Fittings

If you are replacing bathroom or kitchen plumbing consider using more water efficient fixtures and fittings. You can also replace your existing cistern with either a dual or low flush one. Dual flush cisterns use either 3 or 6 litres per flush; low flush use 4 litres, compared with old style cisterns that use 9 litres per flush. **Low-flow** taps are also available.

Re-use Water

There are two methods for re-using water inside your house - rainwater harvesting and grey water recycling. Rainwater harvesting is collecting all of the water from your roof and grey water recycling is reusing water from your kitchen sink, shower and basin. Water collected from both methods can then be used to flush your toilet, water your garden or wash your bike. Storage of the collected water can range from a small unit that sits above the toilet cistern to large under-ground tanks. Local examples of where residents have installed water collection tanks are often showcased in the annual Open Eco Homes events run by Cambridge Carbon Footprint.

For more information, visit www.openecohomes.org

Information on saving water in the garden is in the Garden section on page 39.

Reduce Embedded Water

Embedded water is the water used to produce food and non-food products. According to Waterwise, much of the embedded water that we consume, about 70% of our total water use, comes from the goods and services imported from other nations into our country.

Including water used for drinks, washing, cleaning and cooking, the average UK resident consumes around 3400 litres of water per day. This 'hidden water' is used in the various processes of farming and manufacture, from growing grains and vegetables to feed ourselves and livestock, to washing, dyeing, brewing and cooling.

For example, 9,980 litres go into producing 1kg of cotton and just over 100 litres is needed to make 100 grams of tea leaves.

Ways of reducing your embedded water use:

- Eat less red meat and dairy
- Consider cycling rather than driving – it takes 60 litres of water to produce 1 litre of petrol
- Buy recycled products. For example, recycled paper requires half the water of virgin paper.

Controlling Rainwater Run-off

It is important to think about where the rainwater that falls on your property ends up.

If there are a lot of paved or hard surfaces on and around your home, (e.g. patio, paved driveway) the water will run off these surfaces and into the drains, rather than be absorbed naturally into the ground. This places additional strain on existing storm-water drainage systems and watercourses, and can cause flooding.

Rain can also pick up contaminants off the paved surfaces, such as oil and heavy metals from cars. As run-off drains into rivers and streams, these contaminants affect water quality and wildlife in our waterways including our brooks and the River Cam.

Wood chippings or a recycled aggregate are good alternatives to paving. But if, for practical reasons, some hard surfaces are required, the first choice should be a permeable surface that allows rainwater to drain freely into the ground. For example, you might choose paving slabs with free-draining gaps that can be planted up or filled with a recycled aggregate, or permeable blocks and setts.

For advice on permeable surfaces for front gardens, visit www.gov.uk and download the guidance by entering 'permeable surfaces' in the search facility of the 'publications' section.

You will need planning permission to pave more than 5m^2 of your front garden with non-permeable materials, and other circumstances may also require planning permission.

Contact the Council's Planning Department for more information on Tel: 01223 457200.

Sustainable Drainage Systems (SuDS)

Sustainable drainage systems (SuDS) are the preferred approach to managing rainfall from hard surfaces and can be used anywhere.

The main purpose of sustainable drainage systems is to mimic natural drainage patterns, by capturing rainfall and allowing as much as possible to evaporate or soak into the ground close to where it fell. The rest is directed to the nearest watercourse to be released at the same rate and volumes as it would if there were no buildings or hard surfaces.

There are many different sustainable drainage system features available, including green roofs, permeable paving and more natural features such as rain gardens, ponds, wetlands and shallow ditches called swales.

Not only do SuDS offer the benefit of controlling surface water run-off, they can also provide



Image: Brett Paving

some treatment to water before it reaches our watercourses. Further, SuDS provide a range of different habitats, increasing biodiversity and enhancing our urban areas.

For more information on SuDS, visit www.susdrain.org, Tel: 020 7549 3300, or email enquiries@susdrain.org

Living Roofs



Image: Dusty Gedge

Living roofs, also known as 'green' and 'brown' roofs, have plants growing on them that can help soak up rainfall. They range from mosses and lichens through to sedums and even, with the right type of roof, shrubs and trees. The benefits of this type of roof include:

- reduced run-off by holding water and releasing it through evaporation
- valuable nesting and foraging habitats for a variety of insects and birds
- sound and heat insulation, reducing energy demand in the property and associated carbon emissions
- lower surface temperatures and improved air quality through absorbing carbon dioxide and air pollutants
- a softened visual impact of a building with colourful foliage and flowering plants.

Living roofs can be used on nearly all new roofs and also on some existing roofs. This is dependent on the structural capacity of the existing roof.

For more information, visit www.livingroofs.org.

Water Treatment

As a general rule there are two types of drainage systems that serve your home, these are commonly called surface water drainage and foul water drainage.

Surface water drainage takes the water from your roof and hard paved outside areas, including the road, via a system of pipes and discharges the water straight into a river or watercourse without any treatment.

The foul water system takes the water from your toilet, shower, bath and sink via a system of pipes to the waste water treatment works where it is treated then discharged into the river. It is important that these two are not mixed up when doing any plumbing works.

Check who is responsible for your property's drains and sewers by visiting www.anglian-water.co.uk or Tel: 08457 919155.

Reduce Water Pollution

To avoid contributing to the pollution of our waterways, and to reduce the amount of waste that water treatment companies have to sift through, follow these simple rules:

In the bathroom –
Never use a toilet as a flushable bin!

- Keep a small bin next to the toilet, so nobody's tempted to flush rubbish.
- Put wipes and cotton wool in the bin along with floss and cotton buds.
- Use bags for discreet disposal of sanitary products in the bin.

In the kitchen –
Never pour fats down the drain!

Putting fat, oil and food scraps down the drain causes blockages, with unpleasant results that nobody wants to have to deal with!

- When cooled, put fat, oil and grease in the bin. Larger amounts can be taken to a Household Waste Recycling Centre to be turned into a useable fuel.
- Use sink strainers to catch any small bits of food that could clog your pipes. Empty the strainer into your food waste caddy or bin.

Further Information

Waterwise

Waterwise is the leading authority on water efficiency in the UK. It is an NGO (non-government organisation) focused on decreasing water consumption in the UK and building the evidence base for large scale water efficiency.

Tel: 0207 917 2826
Email: info@waterwise.org.uk
www.waterwise.org.uk

susdrain

susdrain is an exciting new community that provides a range of resources for those involved in delivering sustainable drainage systems (SuDS). Susdrain provides up-to-date guidance, information, case studies, videos, photos and discussion for that help to underpin the planning, design, approval, construction and maintenance of SuDS.

Tel: 020 7549 3300
Email: enquiries@susdrain.org
www.susdrain.org

UK Rainwater Harvesting Association

UK Rainwater Harvesting Association is the trade association for the manufacturers, suppliers and installers of rainwater harvesting systems for the UK market. The Association also represents the interests of its members in relation to other forms of water re-use, and surface water management (SuDS).

Tel: 08450 260240
Email: info@ukhra.org
www.ukrha.org

ConnectRight

The ConnectRight campaign brings together partners who are working to reduce water pollution, including the Environment Agency and DEFRA. Provides advice on checking home plumbing connections to the sewerage system and preventing pollution of our rivers and stream.

www.connectright.org.uk

3 Eating Sustainable Food

Introduction

Everyone needs to eat to survive and thrive. The food and drink we consume are valuable resources that take a lot of other resources (money, time, energy and land) to produce. Producers have to find ways to satisfy an increasing demand for food from an ever-growing world population while coping with other external pressures such as disrupted weather patterns caused by climate change, rising oil prices and availability of fertile land.

Food prices in the UK have risen by 37% since 2007 (DEFRA), yet we still throw away 7.2 million tonnes of food and drink every year. If we don't respect food and act in a sustainable way, we may find it more difficult to satisfy not only our own hunger but that of future generations.

We all need to start thinking more carefully about food - where it comes from, how it is produced, how we use it and whether the food we choose actually keeps us healthy. Producers, supermarkets and policy-makers pay attention to how you shop and what you buy. By making greener choices you can help to influence the food industry for the better and make your own **carbon footprint** smaller.

Reduce Your Food Footprint

On average, food produces about a quarter of our total carbon footprint. Some people are able to eat well and produce less than 1 tonne in emissions. Here are some things that will make the biggest difference if you want to reduce your carbon footprint:

- Eat less, but better quality, meat and dairy products
- Eat more seasonal (to the UK) foods
- Buy less processed foods – cook 'from scratch' more
- Accept different notions of quality – don't expect everything to look perfect
- Accept variability of supply – don't expect to be able to buy everything all of the time.

For more tips from Tara Garnett's 'Cooking up a Storm', visit the Food Climate Research Network www.fcrn.org.uk/fcrn/publications/cooking-up-a-storm

Buy British

In general, it is 'greener' to buy food that is produced in the UK, in season and as local to you as possible. Sign up to Eat the Seasons for regular email reminders of which food is in season in the UK (www.eattheseasons.co.uk).

The UK currently imports about 40% of the food it consumes, and about 90% of the fruit and vegetables which are often air-freighted, the most environmentally damaging form of transport. Most imported food, e.g. rice, can only be grown in countries with the ideal climate; other foods may be cheaper to import than grow ourselves or may be out of season in our own country, such as strawberries in November. But there are risks in relying heavily on imported food:

- Increased prices due to poor harvests or rising fuel costs
- Disrupted supplies through natural disasters or conflict
- Countries with fast-growing populations may price the UK out of food markets.

Try to support British farmers and producers where possible, by looking for the Union Flag or the Red Tractor logo on produce. The Red

Tractor is a food assurance scheme which covers production standards developed by experts on safety, hygiene, animal welfare and the environment.

For more information, visit www.redtractor.org.uk

Buying British is also a more ethical choice in terms of animal welfare. Britain has the highest farm animal welfare standards in Europe. Battery farming of chickens and pigs is in the process of being outlawed in the UK and Europe, but 'factory farming' of animals is still considered by many to be a viable option.

For more information, visit the World Society for the Protection of Animals website, www.wspa.org.uk

Buy Local Produce

Locally-produced food will have, on the whole, required a fraction of the energy needed to grow and transport it than food that has travelled from more than 50 miles away. Buying local means you have a better chance of knowing where your food is from, who has grown it, how they have grown it, and you will be supporting local businesses.



Cambridge has a daily market selling local produce and a Farmer's market every Sunday in the centre of the city. Veggie box schemes are a good option if you can't get to the market.

For more details on where to buy local food, including veggie boxes, farmer's outlets, bakeries and more, visit the food pages of local environmental organisations Transition Cambridge (www.transitioncambridge.org) and Cambridge Carbon Footprint (www.cambridgecarbonfootprint.org).

Reduce Your Food Waste

Almost half of the total amount of food thrown away in the UK comes from our homes. Most of it could have been eaten. Wasting this food costs the average household £480 a year, (£680 for a family with children) the equivalent of around £50 a month.

The production, distribution, storage and cooking of food uses energy, fuel and water. Each of these processes costs money and emits greenhouse gases contributing to climate change. Follow these simple tips to help reduce food and energy waste:

- Plan your meals for the week ahead, and write a shopping list
- Check food labels for 'sell by', 'best before', and 'eat by' dates
- Avoid BOGOF (buy one get one free) offers unless you can easily store or freeze them
- Preserve any surplus foods by pickling, making jam or cooking then freezing
- Use leftovers. For example, a roasted joint can make another two or three meals

The Love Food Hate Waste campaign has more advice on reducing food waste and making the most of leftover food.

For more information, visit www.lovefoodhatewaste.com

Support Community Food Projects

Transition Cambridge runs several community food projects – they are a great way to get involved and back to basics with food. CropShare volunteers swap labour on an organic farm (Waterland Organics in Lode, just north of Cambridge) for a share of the harvest.

To get involved in this project visit http://cambridge.cropshare.org.uk



Image: Ben Damet

Another project, Henshare, involves making a small investment towards the upkeep of free range hens, in return for a share of their fresh eggs.

For more information on Henshare visit www.waterlandorganics.com

If you want to make changes and eat more sustainably and are not sure where to start, Cambridge Carbon Footprint organises food challenges, to try out eating more sustainably in company with like-minded people.

Read participants' comments on http://cambridgecarbonfootprint.org/blog/category/blog/sustainable-food/

To join in a future challenge, contact: info@cambridgecarbonfootprint.org

Cambridge Sustainable Food, established in November 2013, brings together the many sustainable food initiatives in the public, private, university, community and business sectors in the City. A member of the national Sustainable Food City network, the group aims to promote sustainable supply chains and access to healthy and environmentally sustainable food for all.

To join the group or for more information visit www.cambridgesustainablefood.org or email info@cambridgefood.org

Grow Your Own

It is so satisfying to eat something you have grown yourself, and nothing else tastes quite as good. There are lots of ways to start growing your own, and plenty of local, experienced amateurs able to give practical advice. You don't need to have a large garden – many foods can be grown on a balcony, patio, back yard or even window boxes.

For advice and tips on how to start, visit the food pages on the Transition Cambridge and Cambridge Carbon Footprint websites www.transitioncambridge.org and www.cambridgecarbonfootprint.org

If you want to try growing on a larger scale, you might want to get your name on the waiting list for an allotment plot. The City Council owns the allotments sites in the city, many of which are run by allotment societies. They are very popular and so usually have waiting lists for vacant plots, but sometimes they can offer smaller, starter plots for newcomers.

Visit the Council website to add your name to the waiting list www.cambridge.gov.uk/about-allotments



Image: Darkop / Dreamstime.com

Forage for Free Food

Free food is all around us – it just takes a good eye to start foraging. Wild and street fruit trees and bushes in and around the city offer their crops of apples, berries and nuts to those who can find them. Different seasons offer something to the forager, from salad leaves in Spring to blackberries in the Autumn. You do need to know what you are looking for, especially when mushroom picking, so go on an expert-led walk to be sure you collect only safe and edible



Image: U.S. Fish and Wildlife Service



Image: Helen Hames



Image: Keith Jordan

varieties. These 'fungal forays' are sometimes offered by Cambridge University Botanic Garden *(www.botanic.cam.ac.uk)* and Wandlebury Country Park, just south of the city *(www.cambridgeppf.org.uk).*

Transition Cambridge has created a map showing free food sites in and near Cambridge, including fruit trees, blackberries and nut trees.

Find the map on the 'food' page of their website www.transitioncambridge.org

Gleaning Network UK is an exciting new initiative to save the thousands of tonnes of fresh fruit and vegetables that are wasted on UK farms every year, often due to demands from supermarkets that the produce conforms to certain standards. Much of what is grown is rejected by supermarkets if it is the wrong shape or size. The Gleaning Network coordinates teams of volunteers, local farmers and food redistribution charities to salvage this fresh, nutritious food and direct it to those that need it most. Some farms near Cambridge are participating in gleaning events.

To join in, visit www.feeding5k.org/gleaning.php

Support Ethically Produced Food

Buy Fairtrade Food

Fairtrade labelled goods are often those we cannot grow ourselves including tea, chocolate and bananas. The producers are paid a fair price for their crop, so they can save a little money, send their children to school and afford medical care. Producers are often in countries facing the worst effects of climate change, so choosing to buy Fairtrade supports those most at risk from rising sea levels, drought and hurricanes. Fairtrade products are often cheaper than you might expect and easy to find in most major supermarkets.

The Cambridge Fairtrade Steering Group promotes Fairtrade in and around the city.

To learn more, visit their blog site http://cambridgefairtrade.wordpress.com For more information about Fairtrade visit www.fairtrade.org.uk.



Image: Anette Kay

Avoid Palm Oil

Palm oil is used in many food and non-food products, from biscuits to cosmetics, so check the ingredients list on products you buy.

Forest clearance for palm oil plantations, is destroying pristine forest habitat in many countries such as Indonesia, leading to the potential extinction of many well-known and rare species, including the orang-utan and tiger.

For more information on the environmental effects of palm oil industry, visit www.greenpeace.org.uk/forests/palm-oil

Buy Organic

Organic farming is less intensive than standard farming practices. It has more consideration for the land, the wildlife and the livestock.

In organic farming artificial fertilisers are never used, which means that local watercourses don't suffer from **algal blooms** suffocating aquatic life. Crops are fed with manure and compost, or harvested fields are planted with **'green manure'** (e.g. broad beans or clover) to return valuable nutrients to the soil ready for the next food crop.

Crops are rotated around fields to reduce the spread of diseases. For example, potatoes will not be planted in the same field year on year, to avoid the risk of potato blight.

Pesticides are very rarely used on organic farms. They kill not only crop pests but also their natural predators and the pollinators for those crops, such as bees. Without pollinators many of our most common foods would become very rare and impossible to grow on a large scale.

Herbicides are also avoided as they can kill off our most-loved wildflowers, many of which are food plants for the larvae of pollinating insects such as butterflies.

The organic way allows native wild plants to grow next to crops - providing shelter for natural predators such as birds and ladybirds which control pests such as mice and aphids. Wildlife thrives on organic farms, creating a 'win-win' situation; the crops are protected and pollinated, and wildlife is safeguarded for future generations to enjoy.

Animal welfare is high on organic farms, and antibiotics are not routinely used. Instead, livestock is kept in small groups and moved around to prevent disease spreading.

Visit The Soil Association website for more information about organic farming – www.soilassociation.org



Image: Duncan Harris/Flickr

Buy Free Range

Animal products including meat, milk and eggs that are labelled as 'Free Range' have been farmed in a way that gives those animals freedom to express natural behaviours and have access to the outdoors, as opposed to battery- or barn-raised animals. They are less stressed and this is often reflected in a better flavour and quality of the end food product.

Other products (often pork) may be labelled 'outdoor bred' or 'outdoor reared' but they do not mean the same thing as 'free range'. These descriptions usually mean the animal was born outdoors but mainly reared under cover in a barn, albeit with deep bedding to root in, scratching posts and 'toys' to prevent stress.

If you can't find free range products the next best thing is to look for the 'freedom foods' logo.

Freedom Foods is the RSPCA's farm assurance and food labelling scheme that guarantees the food has been produced to the RSPCA's animal welfare standards.

For more information, visit www.freedomfood.co.uk

Buy Sustainable Fish

It is better to buy wild caught rather than farmed fish, even if it has been organically-raised. This is because fish farms produce large amounts of concentrated waste which can pollute across a wide area, contributing to algal blooms which are toxic to other sea life.

However, wild fish stocks are at an all-time low due to over fishing. Much of what is caught is too small or unpalatable to sell, considered worthless and cast overboard – known as 'bycatch', affecting fish populations further still.

To ensure the fish you buy is 'green' only buy fish bearing the MSC (Marine Stewardship Council) logo. MSC-labelled seafood comes from, and can be traced back to, a sustainable fishery.

For more information about sustainable fish, visit www.msc.org.

Further Information

Compassion in World Farming

Compassion in World Farming is the leading farm animal welfare charity in the UK.

Tel: 01483 521 953
www.ciwf.org.uk

Plan Bee

Plan Bee is the campaign by The Co-Operative to protect bees and other essential pollinators from harmful pesticides.

www.co-operative.coop/plan-bee

Marine Conservation Society

The Marine Conservation Society campaigns to protect the wildlife in our seas. It has put together a 'Good Fish Guide' to help consumers identify fish from sustainable sources.

Tel: 01989 566017
www.mcsuk.org

East of England Apples and Orchards Project

The East of England Apples and Orchards Project works to ensure the future of local orchard fruits and orchards.

www.applesandorchards.org.uk

Cambridgeshire and Peterborough Waste Partnership (RECAP)

RECAP is a partnership of seven local authorities, including Cambridge City Council. The partnership promotes waste reduction and recycling.

www.recap.co.uk

Garden Organic

Garden Organic is the UK's leading organic growing charity, dedicated to researching and promoting organic gardening, farming and food.

Tel: 024 7630 3517 Email: enquiry@gardenorganic.org.uk
www.gardenorganic.org

AmeyCespa

Free soil improver from AmeyCespa is available to collect from their site at Waterbeach, or to buy ready-bagged from Recycling Centres at Milton and Thriplow.

Tel: 01223 861010
Email: enquiry@ameycespa.com
www.ameycespa.com/east/free-compost-collection

Cambridgeshire Community Reuse and Recycling Network (CCORRN)

CCORRN has a list of local Master Composters who can offer home composting talks and demonstrations to local schools, groups and allotment owners.

Tel: 0845 602 7144
www.ccorrn.org.uk

Cambridge Food and Wine Society

The Cambridge Food and Wine Society organises Eat Cambridge, the annual Cambridge food and drink festival. For details of the festival, visit www.eat-cambridge.co.uk.

Tel: 07765 221425
www.cambridgefoodandwinesociety.co.uk

4 Efficient Use of Resources

Introduction

The waste generated from our homes has a significant impact on the environment. A large proportion of domestic waste ends up in landfill, but this can be reduced by carefully looking at the amount of materials we order when carrying out improvement works, the amount of packaging that products come in, and reusing and recycling those materials where possible.

Many of the materials used to build and maintain our homes have environmentally harmful production methods. When carrying out DIY or bigger projects, such as insulating a loft or building an extension, we should consider using materials that are independently certified as being less harmful to the environment, and ourselves, including natural products for insulation, flooring and paints.

Reducing Household Waste

Landfilling and recycling waste use energy, money and land space, as does making new products to replace those we have discarded. Reducing the amount of waste we produce in the first place is best for both the environment and our wallets. Something we can all do to reduce the amount of waste we produce is to be waste aware when we are shopping:

- **Upgrade responsibly.** Some of the world's most rare and precious materials are used in mobile technology, e.g. mobile phones and tablets. New versions of these products are released regularly, making older versions obsolete, but they still contain those valuable materials. If you upgrade, make sure your old gadget is reused by giving it to a friend, or to a charity that can sell it for recycling. For example, most large charities operate a mobile phone recycling envelope scheme.

  For more information, read 'Short Circuit: The Lifecycle of our Gadgets and the True Cost to Earth' at www.gaiafoundation.org

- **Avoiding over-packaging.** Over 40% of the waste in our bins is packaging. Packaging costs money which increases the price of goods. We can choose to reduce the packaging that we purchase and then throw away by buying loose, rather than pre-packaged, fruit and vegetables

- **Buy in bulk.** Family-sized products such as toilet/kitchen rolls, washing powder and pet food can be cheaper and use less packaging per item than individually wrapped products

- **Buy recycled.** Opting for products containing recycled material (such as toilet/kitchen roll, bin bags, stationery) or products packaged in material which has been recycled, will encourage retailers to stock more of these products

- **Avoid disposable products.** – e.g. batteries, cameras, barbecues, razors and nappies. Instead use rechargeable batteries, cameras with HD cards and reusable nappies. They will last longer, use fewer materials and cost you less in the long run. Consider them as assets to keep, not throw away

- **Buy refillable goods.** Washing, cleaning and

beauty products are cheaper and can use less packaging when sold as refills

- **Donate to charity shops.** Items that you no longer use can be a vital resource to people on lower incomes and local charities, such as Cambridge ReUse and Emmaus.

  For more information, visit www.cambridgereuse.org.uk and www.emmauscambridge.org

Each household in Cambridge produces an average of approximately 1 tonne of waste per year. Around 43% of this is recycled or composted, but the remainder has to be disposed of in landfill. You can contribute to reducing the amount of waste sent to landfill by reusing and recycling as much as possible.



Image: Cambridge ReUse

Kerbside Recycling Collections

Most properties in Cambridge have their own blue and green wheelie bins for recycling at home. Flats may have shared recycling bins.

In the blue bins you can recycle:

- Paper – envelopes, phone books, catalogues, junk mail, office paper, wrapping paper, receipts, newspapers and magazines
- Cardboard – flattened boxes, card packaging, cereal boxes, greetings cards, toilet roll tubes and egg boxes
- Drink cartons, e.g. Tetra Pak
- Glass bottles and jars, rinsed and with lids removed



- Food tins, drink cans and foil (rinsed)
- Plastic bottles, pots, tubs and trays.

In the green bins you can recycle:

- All food waste – tea bags, fruit and veg peelings, cooked food, meat, fish, bones and dairy
- Garden waste – grass, hedge clippings, weeds and cut flowers
- Untreated wood and sawdust, including hamster/rabbit bedding
- Shredded paper.

For more information on kerbside recycling services and bin collections, visit www.cambridge.gov.uk/bins-and-recycling e-mail wasteandstreets@cambridge.gov.uk, or telephone 01223 458282.

Public Recycling Points

There are 23 public recycling points around the city, many of which have banks for textiles, books, tapes, discs, and small electrical appliances, which are not collected from the kerbside. You can find your closest recycling point at *www.cambridge.gov.uk/recycling*. There are also a number of litter recycling bins for mixed recyclables throughout the city centre.

Recycling Centres

There are two Recycling Centres for residents to use near Cambridge - Butt Lane, off the A10 near Milton and Gravel Pit Hill, off the A505 near Thriplow.

Their opening times are available to view via www.cambridge.gov.uk /find-recycling-centre-or-rubbish-tip

Entrance gates shut ***10 minutes before*** closing time on all sites. Sites are closed on Christmas Day, Boxing Day and New Year's Day.

The centres are open to residents only (no businesses) and accept a wide range of materials for reuse and recycling, including:

- all electrical and electronic equipment, e.g. mobile phones, printer cartridges
- batteries (car and household)
- building rubble (domestic only), scrap metal and wood (untreated)
- cans, cardboard, drink cartons, glass, paper, plastic bottles
- cooking oil , engine oil and paint
- clothes, shoes and books
- energy-efficient light bulbs, fluorescent tubes,
- green garden waste.

There are also containers for general waste, including bulky items.



Bulky Waste and White Goods Collections

Cambridge City Council can collect many large items including domestic fridges and freezers (not from businesses), large quantities of flattened cardboard (either one-off or regular collections), bulky garden waste (bundled or in boxes or bags) and furniture.

The charge for collecting bulky waste ranges from £22 for one item to £44 for up to 10 items. You can pay by card over the telephone on 01223 458282, or by card, cash or cheque in person at the Mill Road depot.

These prices do not apply to hazardous waste and may vary for garden waste depending on the types of waste included.

For more information on what is considered hazardous waste and how to dispose of it, visit www.cambridge.gov.uk/hazardous-waste

Real Nappies



Image: GoReal

Eight million disposable nappies are thrown away every day in the UK, ending up in landfill sites where they may take hundreds of years to decompose. Using reusable cloth nappies can reduce your household waste by up to half and save you money as well. Modern washable nappies are easy to use, do not require pins or folding, and will work out cheaper than disposables.

For more information on choosing the right washable nappies for you, visit www.goreal.org.uk or call 0800 3288175.

Greener DIY and Decorating

Paints and Finishes

- Use paints that are water or vegetable oil-based as they have reduced health and environmental impacts compared with oil-based paints and varnishes, which give off volatile organic compounds (VOC). These VOCs are chemical compounds, e.g. formaldehyde, that can have long term health risks.
- Do not pour paint down the drain or throw it in the waste bin. Take it to one of the six dedicated paint banks located at recycling Centres in Cambridgeshire operated by Cambridgeshire Community RePaint.

  Cambridgeshire Community RePaint collects, sorts and tests all the reusable paint preparing it for reuse by Community groups and families with any unsuitable paint being disposed of responsibly.

  For more information about paint donation points or buying paint at our partner outlets please visit www.ccorrn.org.uk/community-repaint

CAMBRIDGESHIRE COMMUNITY REUSE & RECYCLING NETWORK

Wood

- Avoid tropical hardwoods (including plywood) unless clearly labelled as being from a well-managed source. Make sure that all wood is from an independently certified source such as the Forest Stewardship Council (FSC). Softwood in the UK is likely to be treated with preservatives. However, European non-treated softwoods, such as pine and birch plywood are available.

  For more information, visit www.fsc.org.uk

- Unfinished (not painted or varnished) wood can be treated using natural oil and wax. This allows the wood to breathe, helping to stabilise relative humidity in the home: not too dry (can affect eyes) and not too damp (can lead to mould and condensation).
- Cambridge Wood Works CIC sells affordable reclaimed timber that's ideal for DIY home and garden projects. They also make Cambridge Hotlogs, very hot and clean-burning timber briquettes - ideal in wood stoves and chimeneas.

  For more information, visit www.cambridgewoodworks.org.uk



Image: Cambridge Wood Works

Insulation

- Conventional insulation materials e.g. mineral and rock wool, polystyrene and rigid urethane foams, have numerous ecological impacts from their manufacture to disposal.
- Greener alternatives include sheep wool and cellulose, both great for DIY enthusiasts as they are easier to handle (non-irritant) than mineral/rock wool. Cork board, recycled newspaper and flax may be more suitable in buildings that use more traditional forms of construction.

Flooring

- Most woollen and synthetic carpets are dyed with synthetic dyes, made from a range of chemicals. Consider using linoleum, cork, or other natural alternatives, or select a 100% naturally dyed carpet.
- Hardwood floors should be certified by the Forestry Stewardship Council (FSC) or Programme for the Endorsement of Forest Certification (PEFC).

  For more information, visit www.pefc.co.uk
- Use underlay boards manufactured from compressed wood fibres.
- When replacing an existing carpet, ask your supplier to recycle the old one.

Greener Upgrades, Extensions and New Builds

Building Materials

- Make use of reclaimed and recycled materials e.g. bricks, slates and even fixtures and fittings e.g. internal doors. Be sure reclaimed products are sound and fit for purpose – don't throw good money after bad.
- Source materials from within 50 km if possible to reduce the amount of CO2 associated with transportation.
- Use materials with a low environmental impact. The Building Research Establishment (BRE) has a 'Green Guide to Specification', listing typical wall, roof, floor and other materials against a simple environmental performance rating scale.

  For more information, visit www.bre.co.uk/greenguide
- Consider using materials with low embodied energy (the energy associated with the extraction, production, transportation and assembly of a material or product). Timber has low embodied energy, steel and cement have high embodied energy.

Windows

- Timber windows and doors are considered to have less environmental impact than other options. WWF-UK has researched the costs and benefits of wooden and u-PVC windows.

  Enter 'Window of Opportunity' in the search facility of their website www.wwf.org.uk to see the full report.

Reduce Construction Waste

About 13% of construction materials delivered to sites are never used. Construction and demolition waste account for around 50% of waste in the UK, with only 10% of materials being recycled and 1% reclaimed.

- Reduce waste from home improvements or building works going to landfill by looking carefully at the quantity of materials ordered and the options for reusing or recycling them later on.
- Reduce construction waste by asking suppliers to take back any unused materials.
- Recycling Centres off the A10 near Milton and off the A505 near Thriplow accept rubble, metal, plasterboard and untreated wood for recycling.
- Consider advertising other items through a 'swap shop' website such as Freecycle *(www.freecycle.org)* or Gumtree *(www.gumtree.com/cambridge).*
- If you are employing an architect, ask them to 'design out' construction waste.

Further Information

Recycling in Cambridgeshire and Peterborough (RECAP)

RECAP is the Cambridgeshire waste partnership, working on campaigns to promote waste minimisation, reuse and recycling locally.

www.recap.co.uk

Waste & Resources Action Programme:

The Government's waste minimisation, recycling and market development programme

Tel: 0808 1002040
www.wrap.org.uk

Recycled Products Guide

A guide to products available in the UK that contain recycled materials. The database provides a very comprehensive listing of recycled products

Tel: 0808 1002040
www.recycledproducts.org.uk

Recycle Now

Provides information on recycling at home and in the garden, including information on buying recycled goods

Tel: 0845 3313131
www.recyclenow.com

Construction Resources Ltd.

Ecological builders' merchant and building centre stocks alternative paints and finishes and provides independent advice

Tel: 020 7450 2211
www.constructionresources.com

The Green Building Store

The Green Building Store specialises in environmentally sensitive building products (01484 854 898). The Green Building Handbook Volumes 1 and 2 provide a guide to building products and their impacts on the environment.

www.greenbuildingstore.co.uk

5 Using Sustainable Transport

Introduction

One of the largest contributors to our individual **carbon footprints** is transport. We all need to get from A to B as we go about our daily lives, but our choice of transport can mean a larger or smaller impact on our environment.

Travelling by motorised vehicles (cars, buses, trains and planes) usually means burning **fossil fuels**, which contributes to local air pollution and global **climate change**. Sometimes we have few options about how we can travel to certain places, but there are often alternative means of transport that are more sustainable.

Drive Smarter

For many people, driving is the only option if it is too far to cycle or there isn't a bus service to your destination. Driving more efficiently, e.g. gentle braking, changing gears early, could save you between £300 and £350 each year on fuel costs.

For more information on fuel efficient driving, visit www.energysavingtrust.org.uk

Car Sharing

For routine journeys (e.g. commuting to work, school or a weekly visit to the supermarket) it is usually cheaper and greener to car share with somebody taking the same route as you. You will need to be organised and there may be some compromises, for example one person may have to work later than the other, but the benefits outweigh the minor inconveniences.

CamShare provides a matching service for potential drivers and passengers that travel in and around Cambridgeshire. Once matched, you can choose to travel together as little or as often as you like. CamShare is free to join and caters for individuals and organisations.

For more information, visit http://camshare.liftshare.com, email: support@liftshare.com or call 01953 451166.

Zipcar

Car club schemes give you convenient access at any time to a car, without the hassle and expense of car ownership or traditional car hire. You can join as an individual or as a business.

As a member, you only pay for what you use and do not have to worry about tax, insurance, servicing or repairs.

The City Council has formed a partnership with Zipcar, which runs the Cambridge car club.

Zipcar members report an average monthly saving of more than £300 compared to car ownership.

Visit www.zipcar.co.uk for information about joining the scheme, vehicle locations and prices.

Try Public Transport

A bus can carry the same number of passengers as about 40 cars but takes up a fraction of the road space and can release less pollution. Taking the bus is also cheaper than driving a car, although bus stops and times may not be as convenient. The Cambridgeshire Guided Busway, linking Huntingdon to Cambridge, provides a direct alternative route to driving on the A14. The specially adapted buses run on biofuel or are fitted with Euro 5 engines (among the 'greenest' diesel engines available) and use both the busway and normal roads.

For more details of local bus services visit www.cambridgeshire.gov.uk/transport/around/buses or www.thebusway.info, or call the County Council's Passenger Transport Services team on 0345 045 0675.

Get Cycling

Cambridge has the highest level of cycling in the country, with one in three residents cycling to work. Cycling is cheaper than running a car and regular cycling can be very good for your health, reducing the risk of chronic illnesses such as heart disease, type-2 diabetes and stroke. It can also boost your mood and keep your weight under control. Even if it is not practical to cycle to work or school every day, doing so once or twice a week could be very beneficial in reducing stress, traffic congestion and air pollution.



Image: Cambridge ReUse

Cycle Map of Cambridge
Download your free copy of the City Council's cycle map of Cambridge by visiting *www.cambridge.gov.uk/cycling-and-walking-schemes* or collect a free copy from the Tourist Information Centre at the Guildhall, Market Square, Cambridge.

Cycle Training for Children and Adults

Bikeability is 'cycling proficiency' for the 21st century, a three-level cycle training programme for children designed to help improve their cycling skills so that they are confident to make journeys on their own in traffic.

The local Bikeability training provider is Outspoken, offering group and individual training sessions to children and adults.

To book onto a training course call 01223 719594 or email team@outspokentraining.co.uk



Image: You Can Hub

You Can Bike Too

The You Can Hub promotes cycling for all through its 'You Can Bike Too' project. Bikes for all abilities are available to hire and ride at Milton Country Park enabling nervous riders, people with disabilities, or those recovering from an injury to ride alongside their able-bodied friends. Their range of ten specially adapted bikes helps people with balance and co-ordination difficulties to ride independently – a great boost for confidence and self-esteem.

For more details, visit www.youcanbiketoo.org or call Milton Country Park on 01223 420060.

CycleStreets

CycleStreets is a UK-wide cycle journey planner system, which lets you plan routes from A to B by bike. It is designed by cyclists, for cyclists, and caters for the needs of both confident and less confident cyclists. The Cambridge version of CycleStreets provides recent photos of, and updates on, cycling infrastructure and road works affecting cyclists in the city.

To plan your route, visit http://cambridge.cyclestreets.net

Alternative cycle route planners include www.transportdirect.info, www.cycle-route.com or you could try getting directions via Google maps.

Buggy Hire Scheme

The council's free pushchair loan scheme enables people with young children to borrow a pushchair after they have parked their bikes at either the Grand Arcade or Park Street cycle-park during normal shop opening times.

Buggies are available to hire from Station Cycles *(grandarcade@stationcycles.co.uk, 01223 307655)* at the Grand Arcade car park and at the Bicycle Ambulance Shop at Park St car park *(01223 322549, rick@bicycleambulance.com)*.

Travel for Work Partnership

Travel for Work (TfW) is a not-for-profit partnership working with employers to deliver and promote sustainable and healthy travel to work, by providing funding to buy cycle racks and training for staff.

If your workplace does not currently offer free cycle parking, contact TfW for details on how to join the partnership by visiting www.tfw.org.uk

If you need further information about cycling in Cambridge, from shared paths to cycle parking, visit the council's cycling web pages www.cambridge.gov.uk/cyclingandwalking or contact our Cycling and Walking Officer by email csc@cambridge.gov.uk or phone 01223 457200.

Walk the Walk

Walking is very beneficial to health and the environment – we should all do more of it if we are able. Walking exercises the whole body, helping to reduce symptoms of stress, improve mood and memory, and boost the body's immune system. And of course it is free and has the lowest carbon emissions of any form of transport. Fitting in more walking into your daily routine is fairly easy – whether it is taking the stairs instead of a lift or getting off the bus one stop early.



Image: Littleny / Dreamstime.com

Walkit

Walkit is an online urban route planner that helps you to plan out a route between two places in the city and calculates the journey time at different walking paces. It even calculates the calories you might burn off and the amount of carbon you will save by walking instead of driving. It can also provide you with alternative routes, avoiding areas with high levels of air pollution or traffic.

To plan your walk, visit www.walkit.com/cities/cambridge

Walking for Health

Several Walking for Health schemes operate in the area including the Nuffield Road Medical Practice in Chesterton (Thursday mornings), Milton Country Park (Tuesday afternoons) and Wandlebury Country Park (Thursday mornings). They all offer gentle walks for all abilities.

For more information, visit www.walkingforheatlh.org.uk

Big Walkies

Big Walkies is a Cambridgeshire based group for people who like to walk with dogs. Organised walks take place at various green spaces, including Milton Country Park (Saturday mornings).

To join or for more details contact bigwalkies@live.co.uk or call 01480 352855.



Image: Sport England

Further Information

The Energy Saving Trust

The Energy Saving Trust gives advice on saving energy in the home and through transport. For details, call the EST transport advice line on 0845 602 1425, or email transport@est.org.uk.

www.energysavingtrust.org

Liftshare

Liftshare is the largest free car-share network in the UK. Its website offers a handy savings calculator to help you work out how much you could save on fuel costs by sharing a lift with someone.

www.liftshare.com

Transport Direct

Transport Direct is a division of the Department for Transport, providing a national public transport journey planner. It includes details of train times, bus routes and car parks.

www.transportdirect.info

Traveline Southeast

Traveline Southeast lets you search bus, coach and train times across the south-east of England, including East Anglia. It also offers mobile phone apps for next bus times from any bus stop in Britain.

www.travelinesoutheast.org.uk

Cambridge Cycling Campaign

Cambridge Cycling Campaign is a charity run by volunteers. Founded in 1995, its aims are for safer, better and more cycling in the Cambridge area.

www.camcycle.org.uk

Safer Routes To Schools

Safer Routes To Schools helps teachers, parents/carers and children to reduce car use on the school journey and adopt a more sustainable approach to getting to school by walking and cycling thereby increasing their independence, health and fitness.

www.cambridgeshire.gov.uk/transport/safety/routes_school

Sustrans

Sustrans is a charity working with communities, policy-makers and partner organisations so that people can choose healthier, cleaner and cheaper journeys and enjoy better, safer spaces to live in. Sustrans also coordinates the 14,000 miles of the National Cycle Network walking and cycling routes.

www.sustrans.org.uk

6 Greening Your Garden

Introduction

If you are lucky enough to have a garden, no matter its size, you can make a positive contribution to our city's environment and **biodiversity**. Gardens allow us to interact with the natural environment, and gardening has been proven to help reduce stress and aid recovery from mental illness. However, sometimes our efforts at maintaining and improving our gardens are misguided. For example we can end up using too many harmful chemicals and wasting too much water.

There are a number of ways that you can improve your garden space and promote wildlife, whilst saving water at the same time. Your garden can also provide you with the opportunity for composting household waste, which can then be used to improve the soil in your garden.

Make Room for Wildlife

Our gardens make up a valuable living landscape for wildlife. With pressures on their natural habitats, some of our best-loved wildlife species like sparrows and hedgehogs are increasingly reliant on our gardens for food, shelter and water. Why not consider the following ways to improve your garden for wildlife?

- Consider adding a pond – it will attract frogs, toads, dragonflies and many bird species to drink and bathe. Even a sunken dustbin lid can be an oasis for wildlife.

  For more information on making your garden a haven for wildlife, visit www.wildlifetrusts.org/how-you-can-help/wildlife-gardening



Image: Jenny Steel

- Use plants that provide nectar for insects. The Royal Horticultural Society has a useful list of plants for pollinators that provide flowers all year round.

  For more information, visit www.rhs.org.uk



Image: Helen Brooks

Plant a hedge – it can provide interest as well as a shelter for wildlife.

Collect rainwater in a water butt and use it to water your garden.

Use a watering can instead of a sprinkler.

Avoid using pesticides. Control pests by encouraging their natural enemies.

From June onwards, let your grass grow a bit longer. It will stay greener for longer without the need for watering.

Consider adding a pond to your garden.



Add a compost bin. Compost can be used to improve your soil.

Try growing fruits and vegetables.

Plant a tree (if you do not already have one) – it will filter pollution and provide shelter for birds.

Attract birds to your garden with bird food and water on a bird table, or nesting boxes in safe spaces.

Ask your garden centre about the species of plants that require less water. It will save you time as well as water.

Use permeable hard surfaces.



Image: Jenny Steel

- Create some quiet wild patches to encourage wildlife, such as log-piles for insects. Leave some of your tidying up until the spring. Birds can eat seeds over winter and ladybirds like to shelter in dead flower stalks.
- Attract birds by putting out bird food and a saucer full of water, and put up nesting boxes in safe spots.

  For more information on the best nest box designs and locations to encourage different species, visit www.rspb.org.uk



Image: Jenny Steel

- Replace fencing with a hedge – a mixed hedge can provide colour and interest, plus food and shelter for wildlife.
- Consider planting a tree. Trees filter air pollution, shelter birds and keep streets shaded and cool. The Council offers free trees to mark the birth of a baby.

  For more information visit www.cambridge.gov.uk/trees-for-babies

Consider carefully what shrub or tree you plant. Some species could affect the structure of your or your neighbour's house with subsidence.

Contact the Council's Arboriculture (Tree) Team for advice on Tel: 01223 457200 or email trees@cambridge.gov.uk.

Organic Gardening

- The best way to control pests in the garden is to encourage their natural enemies. Birds, amphibians and hedgehogs eat slugs and snails, and ladybirds and hoverflies eat greenfly and their eggs.
- Avoid using slug pellets. They can kill hedgehogs and garden birds which eat the slugs, and even household pets.
- Planting disease-resistant varieties of roses and other plants will mean you do not have to use so many pesticides to keep them healthy.
- If you grow vegetables, **companion planting** can help reduce pest attacks. For example, marigolds and poached-egg plants attract ladybirds and hoverflies, which eat greenfly and other pests.
- **Mulching** your garden plants with grass clippings keeps down weeds, improves your soil and saves water by reducing evaporation.
- Use peat-free compost. Peat is a **finite resource** and many wildlife **habitats** are now threatened by peat extraction. Alternatives to peat include garden compost and leaf mould. Mushroom compost is widely available and often costs less than peat.

For more information on organic gardening, visit www.lowimpact.org and look at the factsheets in the 'Land' section.



Image: Jenny Steel

Water Use in Your Garden

- Install a water butt to collect water from your house, garage or shed roof to water your garden.
- Greywater from bathing or washing up can also be used for all but the most sensitive of garden plants. Do not use on soft fruit or vegetables you intend to eat.
- Try not to use sprinklers. If you must water your garden, remember infrequent watering is better than regular sprinkling as it encourages the roots to search for water.
- From June onwards mow grass less frequently. It will stay greener for longer without needing to be watered.
- Choose plants for their drought tolerance, for their compatibility with your soil and their intended position. Ask your local garden centre or nursery for advice.



Image: Melonstone / Dreamstime.com

Composting

Composting is an inexpensive, natural process that transforms your uncooked fruit, vegetable and garden waste into valuable food for your garden by returning important nutrients and minerals to the soil. Finished compost is great for using on flowerbeds, vegetable plots and



Image: WRAP

mixing into planters, and can really make your garden bloom. When used as mulch it can help suppress weeds and retain moisture in the soil. You can install a compost bin in your garden and recycle your garden and organic kitchen waste. Composting at home reduces the amount of rubbish you put out for collection.

Compost bins are available to Cambridge residents at discounted prices through the County recycling partnership, RECAP. Various sizes of bin are available, and delivery to your home address is free.

For more information, visit www.ccc.getcomposting.com

If you do not have enough garden compost to fill a compost bin, you could use a worm bin to make small quantities of good compost.

For information on how to make your own worm bin, visit www.recyclezone.org.uk/az_worms.aspx.html

Balconies, Roof Terraces and Window Boxes

However small your space is for gardening you can still follow many of the tips above. With more exposed sites such as balconies, roof terraces and window boxes, you will need to protect plants from wind and dehydration. Gather potted plants together to cut down on their water loss in the summer. If you are in a block of flats, try to persuade your neighbours to green their balconies at the same time as yours, and then you will provide a more worthwhile resource for birds, bumblebees and butterflies.

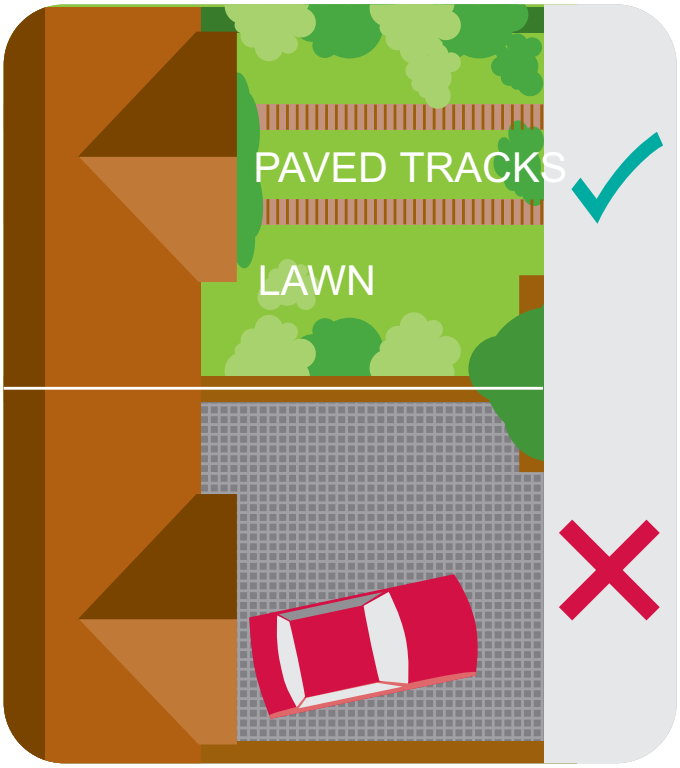
Front Gardens and Off Street Parking

There is an increasing trend of people paving over front gardens to park cars off the street. Disability access often means that this is the only option for some people, but the loss of garden space and street trees should be avoided if possible. If you do provide for parking, please make sure that environmental considerations are taken into account:

- Lay hard surfaces only on areas needed for parking. In most cases all that is needed is just paved tracks to take the car wheels
- Lay hard surfaces on a gradient to allow water to run onto soft landscape areas
- Use **permeable** hard surfaces where possible
- A cut off drainage channel should also be incorporated into the design to stop surface water from discharging across the public footway
- Planting areas should be laid out round the parking space. Some shrubs particularly suitable for front gardens are Forsythia, Lavender, Fishbone Cotoneaster and Honeysuckle. Suitable trees include Golden Robinia and Mountain Ash.

You will need planning permission to pave more than 5m2 of your front garden with non-permeable materials, and other circumstances may also require planning permission.

Contact the Planning Department for more information on Tel: 01223 457200.



Further Information

Wild About Gardens

Wild About Gardens is a joint project of the Royal Horticultural Society and The Wildlife Trusts. It aims to encourage and inspire people to take action for wildlife in their gardens.

Email: contactus@wildaboutgardens.org.uk
www.wildaboutgardens.org.uk

Garden Wildlife Health (GWH)

GWH is a collaborative project between the Zoological Society of London (ZSL), the British Trust for Ornithology (BTO), Froglife and the Royal Society for the Protection of Birds (RSPB) which aims to monitor the health of, and identify disease threats to, British wildlife. They count on the public to submit reports of sick or dead wildlife and samples for analysis.

Tel: 0207 449 6685
www.gardenwildlifehealth.org

British Hedgehog Preservation Society

The website of the British Hedgehog Preservation Society has a wealth of information about hedgehogs including what to feed them and what to do if you find one in daylight hours.

Tel: 01584 890801
Email: info@britishhedgehogs.org.uk.
www.britishhedgehogs.org.uk

Butterfly Conservation

Butterfly Conservation is a British charity devoted to saving butterflies, moths and their habitats throughout the UK.

Tel: 01929 400209
Email: info@butterfly-conservation.org .
www.butterfly-conservation.org

Froglife

Froglife is the UK's only charity providing specific education and conservation projects on native amphibians and reptiles.

Tel: 01733 602102
Email info@froglife.org
www.froglife.org

Buglife

Buglife is the only organisation in Europe devoted to the conservation of all invertebrates, and we are actively working to save Britain's rarest little animals, everything from bees to beetles, worms to woodlice and jumping spiders to jellyfish.

www.buglife.org.uk

Natural England

Natural England is the government's advisor on the natural environment. It provides practical advice, grounded in science, on how best to safeguard England's natural wealth for the benefit of everyone.

Tel: 0845 600 3078
Email: enquiries@naturalengland.org.uk
www.naturalengland.org.uk

Front Gardens

The Royal Horticultural Society has produced advice on parking in front gardens.

www.rhs.org.uk/learning/research /gardeningmatters

Guidance on permeable surfacing of front gardens, published by Communities and Local Government, outlines national policy on paving front gardens.

www.communities.gov.uk/publications /planningandbuilding/pavingfrontgardens

7 Glossary

Algal bloom

A rapid increase in the population of algae in an aquatic system (pond, river, lake, etc.) often caused by an excess of nutrients. As more algae grow, other plants die and become food for bacteria. The bacteria population increases, using up the oxygen in the water which suffocates fish and aquatic insects. Some algal blooms produce toxins dangerous to pets and humans.

Biodiversity

The number of different living species on Earth or a given geographical area.

Biomass

Biological material derived from living, or recently living organisms. In the context of biomass for energy this is often used to mean plant based material. This biomass takes carbon out of the atmosphere while it is growing, and returns it as it is burned.

Carbon neutral

Achieving overall zero carbon emissions associated with transportation, energy production, and industry. A balance between the amount of carbon released and an equivalent amount sequestered or offset, or bought through carbon credits to make up the difference.

CO_2

Chemical symbol for carbon dioxide, one of the main greenhouse gases emitted through burning fossil fuels.

Climate change

A significant and lasting change in weather patterns over time, from decades to millions of years. Caused by natural factors such as variations in solar radiation and volcanic eruptions, but certain human activities have also been identified as significant causes of recent climate change, or 'global warming'.

Companion planting

Planting different plants together so one plant can improve the growth of another. A plant with strong defenses boosts the weakness found in other plants, or attracts pests away from the main crop (*www.the-gardeners-calendar.co.uk*).

Condensing boiler

A high efficiency water heater (typically more than 90%) which uses the waste heat in the flue gases to pre-heat the cold water entering the boiler. The water vapour produced during combustion is condensed into water, which leaves the system via a drain.

Finite resource

A resource that has a limited supply which, once used up, cannot be replaced.

Footprint, Environmental/Carbon/Food

A measurement of the amount of natural resources consumed or impacted by an individual.

Fossil fuel

Coal, oil and gas were formed over millions of years and under enormous pressure from the remains of prehistoric plants and animals. They are extracted from under the Earth's surface and burned as a fuel to produce heat, light or power.

Green manure

Plants, often from the bean family, sown specifically to improve the nutrient levels in soil. Used as ground cover to discourage weeds and to protect topsoil from wind and heavy rain. Plants are dug into the ground to return nitrogen to the soil for a future crop.

Greenhouse gas

Naturally occurring gases at the top of the Earth's atmosphere act like a greenhouse, trapping some of the sun's heat, maintaining the Earth's average temperature and enabling life to survive. The burning of fossil fuels releases stored carbon and other greenhouse gases, which increases the 'greenhouse effect' and the Earth's average temperature.

Habitat

The natural environment of an individual or group of animal or plant species, e.g. the natural habitat of a squirrel is woodland.

kWh

The symbol of a unit of energy equal to 1000 (a kilo) watt-hours. Energy bills are measured in kilo-watt hours. A heater rated at 1000 watts (1 kilowatt), operating for one hour uses one kilowatt-hour.

Low-e glass

The ability of a material to radiate energy is known as emissivity. In general, reflective materials have a low emissivity and dull materials have a high emissivity. Low-e glass is very reflective so does not radiate much energy, which means it acts as an insulator, keeping heat indoors.

Mineral wool

A form of insulation which uses minerals as a raw material, such as rocks or glass (made from silica). The melted minerals are spun into fibres which resemble a woollen fleece.

Mulch, mulching

'Mulch' is a layer of material put on top of soil to retain moisture. The material can be organic, e.g. leaves, bark chippings or manure, or man-made such as plastic sheeting.

Permeable

Paving blocks and slabs can be permeable (have tiny holes) to allow heavy rainfall to trickle through, preventing puddles from forming on the ground surface which can lead to flooding.

Photovoltaic

'Photo' means 'light' and 'voltaic' (pron. vol-tay-ick) means 'electricity', so 'photovoltaic' means 'light electricity' or 'electricity from light'.

Disclaimer

We have included links in this guide to organisations and companies that may be able to provide information or services that would help you. However, we are not offering any guarantee that they will meet your needs. You will need to exercise your own judgement.

It is advisable to obtain a number of quotes before choosing any product or service. The organisations referred to throughout the guide are only some of those that may provide the product or service mentioned.



Printed on 100% Recycled paper

Acknowledgments

This guide is partly based on householder guides on similar subjects produced by London Boroughs of Camden, Enfield, Haringey and Merton, and the Woking Local Agenda 21 Steering Group.

Further information

For the most up to date advice and information on grant schemes to help you save energy at home, please visit the Council's website at *www.cambridge.gov.uk/home-energy-efficiency*

To learn more about what Cambridge City Council is doing to combat climate change visit the Council's website at: *www.cambridge.gov.uk/climate-change*

If you require more copies of this brochure, please email *sustainablecity@cambridge.gov.uk*

CAMBRIDGE
CITY COUNCIL