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?

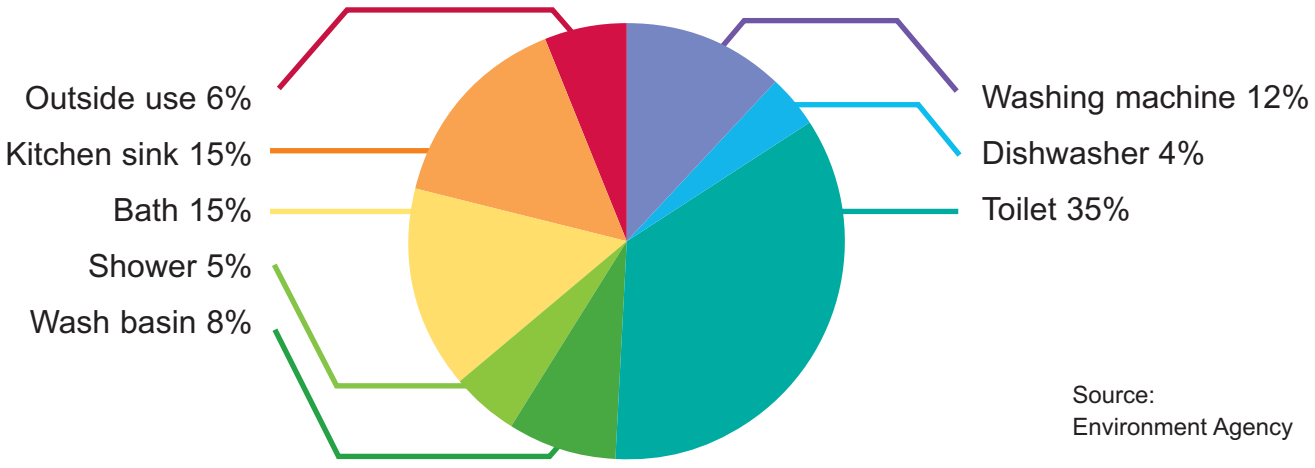
Water is the most precious of our resources – without it life itself would not exist. Around the world, drinking water is in short supply and so even here in Cambridge we must treat it with respect and use it wisely.

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