

# Richmond Environment Network

## Sustainability Briefing Papers - No. 6 - Water Saving

# Why Do We Need To Save Water?

Every year we use more and more water in our homes. Today, each person uses on average 150-180 litres per day, with much of it wasted. Meanwhile there are increasing droughts particularly in London, which will only get worse because of climate change. If we don't start wasting less, there may not be enough for us or for our environment. Furthermore, if you get a water meter fitted, you can also save pounds.

### How can we save more?

If we followed Germany, for example, where water use has been reduced by a fifth to 125 litres per person per day, wildlife and people would not be facing such water shortages. There are many cheap and effective ways to reduce the amount of water that we waste. This Topic Paper concentrates on low cost, easy actions to install:

- Retrofit low-volume flush mechanisms
- Cistern displacement devices
- Tap flow-rate reduction retrofits
- Rainwater collection butt.

If all those who were reasonably able used these technologies, then there could be savings of 90 million litres each day, equivalent to filling almost 200 standard 25 metre swimming pools. Each householder could save over 10% of their water use and about £30 each year, which would pay back their investment in about two years.

### Retrofit low-volume flush mechanisms

This is a Variflush, which fits most toilets older than five years and costs between £15-20. Fitting is relatively easy, and doesn't require great DIY skills. The Variflush is easy to use- just turn the dial to select the flush water volume simple to use - just turn the dial to select the flush water volume required: min (4 l), med (5.5l) and max (full capacity). They are produced by Peterton, and will



save about 30 litres a day in a typical household and £21-£25 per year. This will pay back in less than a year (for contacts, see below).

### Cistern Displacement Devices

A cistern displacement device, like a 'Hippo' or a 'Save-a-Flush', is placed directly into the cistern and 'displaces' water, thus reducing the flush volume. These devices can be used only with older cisterns with a flush volume equal to or over 7.5 litres. They can be ordered for free from Thames Water. They will save you about ten litres a day in a typical household and £7.50-£9.00 per year. As they are free, they have an instant pay back.

### Tap flow-rate reduction retrofits

Effectively this means retrofitting your tap so that it sprays water on your hands when washing under them. This means you need less water when you have the plug out. Tapmagic™ cost between £3 and £6 each. Independent testing by Southern Water suggests potential savings of 52% of tap water consumption, equivalent to around 4% on total annual household water consumption. They will save about 14 litres a day in a typical household and £10-12 per year, which will pay back in 15-18 months.

### Rainwater collection butt

A water butt is a device for collecting and storing rainwater, which can then be used for watering the garden or washing the car. Rainwater is generally better for plants as well. There are a



wide variety of designs available, typically in capacities of 100-200 litres, costing about £40 from DIY stores.

Water butts are easy to fit too - just follow these simple steps:

- Select a downpipe that is not in a prominent

position with plenty of room to stand a butt nearby.

- Cut the downpipe at the desired height and fit a diverter.
- Ensure the butt is on a water butt stand or firm base, preferably above the ground so you can get a watering can easily under the tap.

A firm base is important otherwise, when the water butt is full, it could affect the angle of the bypass diverters, causing them to overflow. It's best to purchase a water butt stand and most are universal. Make sure your water butt or any other collection vessel has a secure, childproof lid. As well as protecting children it will also prevent debris and mosquitoes from entering.

These will save about seven litres a day in a typical household and £5-6 per year, which will pay back in 5-8 years.

## Grey water recycling

Grey water recycling is the use of water which has been recovered from showers, baths and wash basins. A typical Grey water recycling system collects this water, treats it and re-uses it for purposes that do not require drinking water quality, such as flushing toilets watering gardens and to feed washing machines.

Grey water recycling has the potential to save a third of domestic mains water usage. If your property is metered this will reduce your water bill, although financial savings are dependent on the price of water in your area and the volume of water reused.

Grey water systems are relatively expensive with a typical domestic system probably costing in excess of £3000. It is therefore worthwhile before purchasing to compare how much grey water you generate (the number of baths and showers taken) with your demand for reclaimed water (the number of toilet flushes or volume required for your garden). Also consider the potential savings from reduced water consumption against the costs of installation and maintenance.

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## Contacts and further reading

**Environment Agency (2007),** 'Retrofitting sustainability in homes - the financial and environmental savings'  
[www.environment-agency.gov.uk](http://www.environment-agency.gov.uk)

**WWF (2006),** 'Blueprint for Water: Ten steps to sustainable water for 2015'  
[www.blueprintforwater.org.uk](http://www.blueprintforwater.org.uk)

### Water Meters:

Call Thames Water on 0845 9200 888 to request a meter fitting.

### Variflush

These are produced by Peterton  
[www.peterton.co.uk](http://www.peterton.co.uk)

### Cistern Displacement Devices

These can be ordered for free from Thames Water:

[http://www.thameswateruk.co.uk/UK/region/en\\_gb/content/Section\\_Homepages/Right\\_Image\\_000040.jsp?SECT=Right\\_Image\\_000040](http://www.thameswateruk.co.uk/UK/region/en_gb/content/Section_Homepages/Right_Image_000040.jsp?SECT=Right_Image_000040)

### Tap Flow-Rate Reduction Retrofits

You can get these, called Tapmagic™, from [www.tapmagic.co.uk/unifit.html](http://www.tapmagic.co.uk/unifit.html)

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All recommendations within this leaflet are offered in good faith, with the benefit of related experience and knowledge. However, if you choose to carry any of them out, you do so entirely at your own risk. REN are unable to accept any responsibility for loss or damage resulting from such action.

## Richmond Environment Network

Linking, supporting, developing & promoting local environmental and sustainability activities.

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