

# Rainwater harvesting – an essential environmental solution

Low groundwater levels, dried up rivers and depleted reservoirs have now recovered after record-breaking summer rainfall and devastating floods. But concerns remain about future water supplies as population and housing growth – and the increasingly unpredictable rainfall that is expected to come with climate change – intensify pressure on finite resources, writes Jonathan Dennis, Water Analyst, the Environment Agency



**R**educing demand for water is key to ensuring we are prepared for the uncertainties ahead. And, one way of easing the pressure on supplies is to use rainwater.

The amount of rain available for harvesting is determined by the size of the local catchment area and regional rainfall patterns.

The North West can expect double the rainfall of East Anglia in an average year – so a property with a large roof area and significant demand for rainwater in Manchester could expect far greater savings than a small property with low demand for rainwater in East Anglia.

Water rates also vary across the UK, so rainwater harvesting will be most cost-effective in regions with high rainfall and high water rates, such as South West England.

A good quality domestic system costs between £2,000 and £3,000 to buy but excludes plumbing and maintenance costs.

Costs are likely to be substantially lower if a system is installed during construction, or retrofitted into an existing building during a major refurbishment. But because water is relatively inexpensive in England and Wales, a domestic system can have a long payback period.

For larger schemes such as housing developments, where bills are shared, payback times are much shorter and savings can run into thousands of pounds. The same holds true for industry and arable agriculture – sectors that have a high

demand for water and large buildings with plenty scope for collecting rain.

At our Pennygillam Depot in Launceston, Cornwall, water from a recently-installed rainwater harvesting system is being used to clean maintenance equipment and flush toilets on the site – helping to save both mains water and money.

The high cost of systems and lack of clear water quality regulation means projects such as the one at Pennygillam are still the exception rather than the rule in the UK.

In many other countries it's a different story. In Japan, for example, regulation ensures that all new buildings with space over 300,000 m<sup>2</sup> have harvesting systems fitted as standard practice. Grants to help cover the cost of installation are also available in several European countries including Germany, where more than 1.5 million systems have been fitted in homes and offices to date.

But times in Britain are changing. Driven by recent regulation and the Code for Sustainable Homes, water efficiency standards in new build in England and Wales are set to improve. Rainwater harvesting, or grey water recycling, will generally be necessary to meet the highest levels of the Code so these systems will become more commonplace.

There is also a growing public appetite for more sustainable housing and an increased awareness among business that rainwater harvesting can make financial, as well as environmental,

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sense. Supermarket giant Tesco, for example, is currently installing rainwater harvesting in all its new stores and rolling out a retrofitting programme for existing stores.

Tesco says the systems will pay for themselves in around four years and are expected to reduce company water consumption by around 20% this year. Rainwater harvesting was also a key feature of many of the winning water-saving schemes in our Water Efficiency Awards last year, such as the Earthship community centre, in Brighton.

Grants aren't currently available for domestic rainwater harvesting systems in the UK, but the Enhanced Capital Allowance (ECA) scheme allows businesses to claim 100% first year capital allowances on investments in technologies and products included on the Water Technology List at: [www.eca-water.gov.uk](http://www.eca-water.gov.uk). Funding for agricultural schemes may also be available through your local Regional Development Agency.

For further advice on saving water, visit [www.environment-agency.gov.uk/savewater](http://www.environment-agency.gov.uk/savewater)

*\* The Lamb Drove development in Cambridge is leading the way when it comes to sustainable water management techniques. The full story is on page 59.*

