

## Its Time to Take Water Supplies Seriously



### *about the author ...*

Nick Pope is the Managing Director of Premier Tech Water & Environment UK, a UK Rainwater Management Association member-company

### *water-related aspects of climate-change ...*

The water-related aspects of climate change can be summarised as a future in which the risk of winter floods and summer droughts will increase due to changing weather patterns and increased urbanisation caused by population growth.

These heightened risks are already plain to see with localised winter flooding regularly appearing in the news, and farmers experiencing increasing difficulty in accessing irrigation water to maintain crop yields. An unusually dry spring and summer this year has brought water supply companies in southern England close to imposing hosepipe bans on their consumers, with much more serious problems forecast if this year's weather pattern becomes typical.

### *future water management ...*

A characteristic of floods and droughts is that you cannot wait until they arise before doing something about them; options to alleviate them take years to implement, involving expensive improvements to flood defences and innovative ways of making limited supplies go further.

Sadly, there is no single "silver-bullet" likely to address this dilemma, but an integrated approach to both floods and droughts clearly needs to be taken to make sure, for example, that measures taken to manage flood risks do not result in a higher risk of subsequent droughts. To this end, future water management will need to be holistic, and include measures to make more efficient use of the precious water resources.

### *the role of water re-use systems...*

Part of this rich mix is likely to be delivered through a clearer national role for water re-use technologies such as greywater recycling (GWR) and rainwater harvesting (RWH). Both are aimed at avoiding the use of potable mains water where it is not necessary to do so, such as when flushing toilets for example.

This can be arranged at the relatively minor cost of installing separate potable and non-potable water distribution pipework, but results in the major benefit of reducing mains-water consumption in homes by up to 50%, and in many commercial buildings by closer to 80%. Interestingly, the carbon footprint of total water used is also reduced, thus contributing to national carbon-related goals as well.

### *cost-effective too ...*

Grey water recycling works by processing shower and bath water to provide a supply for the non-potable uses, effectively using the same water twice; this also eases the burden on drainage infrastructure. GWR is particularly cost-effective in, say, hotels and hostels where there is a good match between the use of shower/bath water and the demand for non-potable water.

Even more straightforward is rainwater harvesting which simply collects and stores the rainfall falling on the roof, for subsequent non-potable re-use. This works best in homes and businesses where there is a good match between the water likely to be collected, and the demand for non-potable water. Using the collection capacity of the system is an integrated part of a sustainable drainage system, thus providing additional cost-saving benefits.



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