As time has gone by water use in British bathrooms has changed considerably. When water had to be hand drawn from a well or pump the amount used would be limited by what could be carried. For bathing a metal tub would be placed in front of the open fire and kettles of water heated and used to fill the bath.

As buildings were plumbed and running water became the norm people started to use more water. Baths as permanent fixtures became established and WCs replaced the soil privies at the bottom of gardens.

Today, en-suite bathrooms with power showers and whirlpool baths have become commonplace.

As we move towards the goal of zero-carbon homes and lowering the environmental impact of our lives, however, our expectations of our use of water, especially in bathrooms, needs to change.

The Government has set a target of zero-carbon homes by 2016 (Wales has set an even more ambitious target of 2013) and has defined a 'zero-carbon' home as meeting the requirements of a Code for Sustainable Homes (CSH) level 6 home. All CSH homes have to meet not only mandatory energy targets, but also mandatory water consumption targets.

Current household water consumption in the UK results in emissions of on average 150 litres of CO2 per person per day. However, the maximum target set by CSH level 6 is only 80 litres per person per day, so to meet the target significant changes are needed in the bathroom.

The basic answer is to use water more efficiently and there is already a range of alternatives on the market to do this.

The dual flush WC

The introduction of valve outlet flushing cisterns in 1999 has lead to light action dual-flush

mechanisms that can provide flush volumes of six and four litres or even lower. Currently four and 2.6-litre flush dual flush WCs are available from a number of manufacturers and an air assisted 1.5 litre single flush WC is close to market.

Aerated taps and showers

Aeration is the incorporation of air into the water flow – a means of producing a flow that appears to be greater than it is. This increases the bulk of the water flow but reduces the density.

Baths

When baths were taken in metal tubs in draughty rooms it made sense to have a sufficient volume of water to retain enough heat for the whole family to enjoy the same bath in sequence. However, as we now tend to have centrally-heated rooms and water, along with insulated baths, the need to have such large baths may have reduced.

Water efficient baths may be shaped to fit more closely the shape of the occupants. At least one major manufacturer is experimenting with a flexible bath material that will deform and mould itself to the shape of the body of the bather.

The future

As more homes are built to environmental specifications such as the Code for Sustainable Homes (CSH), specifiers need to be able to specify with confidence appropriate water-using appliances and fittings. The code, and other Government policy on water issues, is also likely to drive an increase for the demand for non-wholesome water supplies and water re-use systems. The acceptability to households of re-using water for WC flushing has been shown to be very high (80% for rainwater and 78% for greywater), so the post-modern bathroom is likely to have an additional piped supply for the WC.

Guidance

With all these developments it is becoming increasingly difficult to compare products. To fulfil this need, BRE Global has launched a number of schemes that will cover waterusing products that need to be specified within the Code for Sustainable Homes. The first Scheme covers WC suites and enables suites that have an effective flush volume of below six litres to have their efficient flush volume verified and accredited. Upcoming schemes will cover bath volumes and terminal fitting flowrates, including taps, showers and flow restrictors/regulators.