



## ***Delivering multiple benefits from mainstreaming water efficiency:***

### **Recommendations from Waterwise for policymakers and regulators, drawing on the Final Report of Phase II of the Evidence Base for Large-scale Water Efficiency**

#### **Introduction**

Waterwise's Evidence Base for Large-scale Water Efficiency in Homes is widely acknowledged as the best available evidence of the costs and benefits of large-scale water efficiency, drawing on actual data from projects. Phase II was funded by the department for Communities and Local Government, Defra, the Environment Agency and Ofwat, and supported by water companies and regulators across the UK. [The final report of Phase II](#) details the costs and benefits and water, carbon and energy savings from large-scale water efficiency measures in homes and schools, which it presents factually. This accompanying set of recommendations for policymakers and regulators has been produced by Waterwise, drawing on the report itself: its analysis, conclusions and scenarios.

#### **Overview**

In addition to its use within the regulatory framework (for example, the 2009 Price Review in England and Wales) to deliver greater, funded water efficiency activity, over the last five years of analysis and experience of Waterwise's Evidence Base many policy recommendations and innovations have emerged and been advocated by Waterwise - some have now become mainstream policy and practice. Examples include identification of the links between water and energy, the cost-effectiveness of working in partnership to deliver water efficiency, including between water companies and social housing providers, and the bias towards capital expenditure which skews water company investment and activity away from larger-scale water efficiency activity towards resource schemes. Drawing on the analysis and conclusions in the final report of Phase II, Waterwise has identified the following recommendations, with the aim of stepping up the incentives for and therefore the policy and regulatory outcomes and multiple benefits from larger-scale water efficiency across the UK. Brief narrative is contained below each recommendation (a list of recommendations without narrative can be found at Annex 1).

#### **Recommendations**

- 1. The improved and detailed understanding of the cost-benefit analysis of water efficiency should be used in water policy and regulation to incentivise and deliver water efficiency on a far larger scale than currently. This will help both manage the pressures of increased demand*

*and reduced supply from climate change and population growth across the UK, and deliver carbon reduction targets*

There is now sufficient evidence of the effectiveness of water efficiency retrofitting - and how it can be delivered cost-effectively in partnership with social housing providers, energy companies and local councils - for water efficiency programmes to be taken forward on a large-enough scale to replace or delay large, expensive capital schemes such as reservoirs.

The average incremental costs (AICs) of water efficiency programmes are competitive (equal or lower in some cases) when compared with supply-side water resource options and the evidence is now strong enough to justify water company investment in larger-scale water efficiency programmes in the next round of price reviews. This is particularly the case where large-scale water efficiency programmes involve working with external partners or piggybacking on other water company activities such as metering or leakage control.

During PR09 five companies had water efficiency programmes approved under the Sustainable Economic Levels of Water Efficiency targets, which involved tens of thousands of homes. This was an important step forward for the industry, which had previously seen trials carried out on the scale of a few hundred homes. However, there is scope for water efficiency to be carried out on an even larger scale if it is judged on a level playing field with resource options.

Water companies - and policymakers and regulators - can now have confidence in the water, carbon and energy savings (indirect and domestic hot water savings), costs, and level of participation to be expected of customers (depending on the approach used to recruit) from large-scale water efficiency activity. The final report of Phase II of the Evidence Base also provides new evidence for how water savings are sustained, which is probably the biggest source of uncertainty in the cost-benefit analysis. The evidence base is vastly improved since the last UK price determinations and this should provide a solid basis for water companies to submit proposals for larger programmes in the next price reviews and Water Resource Management Plan processes.

2. *Policy and regulation across sectors should allow and encourage joint working between water companies, energy companies, social housing providers and others. This should include energy efficiency retrofitting measures and standards for social housing and new and existing housing*

Partnerships offer realistic options for water companies, social housing providers, energy companies, local councils, NGOs and retailers to work together to deliver water efficiency on a large-scale and in the most cost-effective way. Scenarios 1 to 4 in the final report of Phase II show that partnership is an increasingly attractive option for stakeholders who want to deliver water efficiency. Options include linking with energy retrofitting schemes such as the Green Deal and the Scottish Home Insulation Scheme, but the policy framework doesn't always allow or incentivise this. Waterwise has worked with other stakeholders and the Coalition Government so that water efficiency is included in the Britain-wide Green Deal, but to maximise carbon, energy and water savings it is important that this is included in the measures installed as well as the advice offered. Water companies can also link with energy companies under schemes such as the Carbon Emissions Reduction Target and, its successor from December 2012, the Energy Company Obligation, and some such partnerships are underway, but significant barriers have been raised in terms of linking the two regulatory frameworks (the perceived "additionality" issue) which have prevented other projects. Many water companies are working with social housing providers on joint projects, but this could be made even

more mainstream if social housing standards included showers and a water efficiency retrofit of taps and toilets.

Waterwise's Submissions to two recent Coalition Government Calls for Evidence, on CERT (January 2011) and the Green Deal (April 2011), outline in detail the issues involved and potential multiple benefits from including water efficiency measures. Both can be found [here](#).

- 3. The significant potential savings from retrofitting schools, in particular secondary schools with older toilets and bathrooms, should be actively included in education policies, and reflected in building standards for new schools*

Schools in the UK spend at least £70 million on their water bills each year, and use over 31,000 million litres of water. The final report of Phase II shows that - for the biggest users - a simple retrofit can save up to 20% of their water use: 3,130 litres per day, adding up to 1.14 megalitres a year. The annual savings from one school could be enough to supply water to eight families for a whole year.

Spend-to-save schemes, whereby schools repay the cost of a retrofit over time through savings in their bills, are already underway by some water companies, and Waterwise.

- 4. The bias towards capital expenditure within the regulatory framework for water should be addressed to ensure that demand (and catchment) management schemes with a positive cost-benefit analysis over a longer term do not play second fiddle in investment decisions to supply-side measures; and price reviews should include longer-term investment horizons for large-scale water efficiency activity*

Due to the regulatory bias towards capex (first identified in the October 2008 Evidence Base report), water companies are financially incentivised to deliver large-scale supply-side schemes since these generally increase regulatory asset value and may offer opportunities to over-perform on and make additional gains on capital expenditure. Water efficiency schemes require operational expenditure, which does not have the same potential benefits and counts against companies' financial performance targets. Ofwat has now expanded the category of "special" opex, which partially resolves this problem, and has also put in place a revenue correction mechanism which shares between companies and customers the benefits and risks of companies recovering more or less revenue than is assumed when setting price limits. A survey of water companies for the Evidence Base Steering Group suggested that these changes have not yet been successful at levelling the playing field for water companies' investment in demand and supply-side resource options.

During PR09, Ofwat allowed companies in England and Wales to propose investment in water efficiency programmes as part of a best value approach to water resource management which addresses supply-demand deficits within the current (AMP5) and next (AMP6) period. However, few of the water companies were successful in having investment approved over two price review periods, although the 25-year Water Resource Management Plans show that in many cases a supply-demand deficit is forecast to occur 10 to 15 years into the future.

- 5. Skills and cash resources within water companies to deliver large-scale water efficiency and customer engagement programmes should be enhanced, potentially by corraling these in the third sector*

There is a shortage of human and financial resources to deliver water efficiency programmes through future price reviews. Most water companies do not have the experience of implementing a

water efficiency programme on a large scale and companies are acutely aware of the risks associated with providing a service to customers in their homes. In such circumstances a water company may opt for an engineering solution of a kind of which it has prior experience.

In terms of programmes which seek to engage customers and influence their water-using behaviour, there are few organisations with the capacity to deliver large-scale programmes alone. The expertise required to deliver water efficiency programmes often sits outside of water companies which means that it can be difficult to ensure that the latest evidence and thinking is included in water company proposals for the price reviews and Water Resource Management Plans.

6. *The approach to water efficiency targets in England and Wales should be modified so that in addition to driving water companies to be active water efficiency practitioners it incentivises them to maximise the effectiveness of their activities*

Water companies are currently incentivised through the water efficiency targets in a way which focuses them on the theoretical water savings from a product rather than its actual savings and performance. This can encourage the distribution of products which customers don't particularly like, potentially acting against behaviour change and how keen they are to refurbish whole bathrooms with water-efficient kit in the future, beyond retrofitting.

There is a tendency for water efficiency activities being carried out to meet the base service level water efficiency target to offer customers individual devices such as cistern displacement devices and shower and tap inserts, which they are required to install themselves in their homes. Targetting customers with one or two measures for self-installation rather than a whole-house retrofit carried out by a qualified plumber can mean that, while the low-hanging fruit is being targeted, potential further water savings are unlikely to be realised.

Furthermore, the cost of accessing further water savings is much higher once these properties have been targeted once on a more superficial level: sending a cistern displacement device to a customer rather than carrying out a retrofit in their home by a trained installer could lead to missing an opportunity to save a large volume of water.

7. *The carbon and energy savings from large-scale water efficiency activity and partnerships should be included in the cost-benefit analysis, to reflect the wider societal benefit*

Waterwise's Evidence Base project analyses the carbon and energy savings both for the water company and at the level of the home or school being targeted, but neither can currently be reflected in the cost-benefit analysis of the project, in the existing regulatory framework. As a result, the wider benefits of carbon reduction - tackling the 5% of total UK greenhouse gas emissions from heating water in homes and the 1% from the water industry's own processes - from large-scale water efficiency measures are not included in the case for them.

## Annex 1

### Recommendations

- 1. The improved and detailed understanding of the cost-benefit analysis of water efficiency should be used in water policy and regulation to incentivise and deliver water efficiency on a far larger scale than currently. This will help both manage the pressures of increased demand and reduced supply from climate change and population growth across the UK, and deliver carbon reduction targets*
- 2. Policy and regulation across sectors should allow and encourage joint working between water companies, energy companies, social housing providers and others. This should include energy efficiency retrofitting measures and standards for social housing and new and existing housing*
- 3. The significant potential savings from retrofitting schools, in particular secondary schools with older toilets and bathrooms, should be actively included in education policies, and reflected in building standards for new schools*
- 4. The bias towards capital expenditure within the regulatory framework for water should be addressed to ensure that demand (and catchment) management schemes with a positive cost-benefit analysis over a longer term do not play second fiddle in investment decisions to supply-side measures; and price reviews should include longer-term investment horizons for large-scale water efficiency activity*
- 5. Skills and cash resources within water companies to deliver large-scale water efficiency and customer engagement programmes should be enhanced, potentially by corraling these in the third sector*
- 6. The approach to water efficiency targets in England and Wales should be modified so that in addition to driving water companies to be active water efficiency practitioners it incentivises them to maximise the effectiveness of their activities*
- 8. The carbon and energy savings from large-scale water efficiency activity and partnerships should be included in the cost-benefit analysis, to reflect the wider societal benefit*