

Communicating the Value of Water – The UK Water Industry’s Challenge

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EXECUTIVE SUMMARY

Increasing consumer understanding of the value of water and educating people on the right choices to make relating to its use are two of the biggest challenges faced by the UK water industry today.

Water is an essential element to our survival, but we continue to take it for granted - few other industries in the UK make such a vital contribution to the country’s health and prosperity yet remain so largely invisible. But demand for water is rising and meeting that demand is becoming increasingly difficult due to climate, population and lifestyle changes.

In a speech to the Sustainable Development UK conference in March 2009, Professor John Beddington, the UK government’s chief scientist, outlined the global consequences of taking water for granted. He predicted that demand for fresh water would rise 30% by 2030, and we are heading into a ‘perfect storm’ of scarce water, food shortages and insufficient energy resources.

Each person in the UK uses 150 litres of water a day. This takes into account cooking, cleaning, washing and flushing. This has been rising by 1% a year since 1930.
Source: Waterwise 2009

To manage this challenge, whilst simultaneously protecting the environment, the UK water industry needs to make some important infrastructure investment decisions that will have a knock-on effect on the cost of water to the consumer. But this is steeped in complexity, as in the long-term, consumers will need to be persuaded to pay more for water and simultaneously use less of it. And it is this ethos that runs contrary to the experience they have had with all other utilities.

While increasing water prices could help achieve the objective of cutting water consumption, it would also meet with resistance. Water is so fundamental to us as a race that we see its supply

as a right – and the water industry as having a public health obligation to fulfil this, despite the fact that water companies have been privatised businesses since 1989.

A sea change in attitude and behaviour is required in the UK in order to protect one of our most precious resources, and ultimately consumer experience of water must move from one of price to one of value. This is already happening in other countries such as Australia, where well documented and severe droughts are threatening the country's economic prosperity. Faced with this stark reality, consumers have been forced to alter their perception of water and change their behaviour relating to it, recognising its true value rather than thinking about it in financial terms alone. In some parts of Australia during the last few years, water resources were being measured in terms of days remaining.

But triggering consumer behavioural change is fraught with complexity and there is no easy solution, as this whitepaper explores. Consumers need to appreciate the full scale of the services the water industry supplies, from treating and supplying drinking water to conveying wastewater then processing it to a standard suitable for returning to the environment. They must also make the connection between their actions regarding water usage and the wider impact on the environment around them, or it will be difficult for them to appreciate why price increases are necessary at a time when they are being told to use less water.

Nevertheless, this behavioural change needs to happen before the UK faces a crisis situation with regard to its water supply. According to Waterwise¹, each person in the UK uses 150 litres of water a day, which has been rising by 1% a year since 1930. Against the backdrop of mounting environmental challenges and a huge population growth - the Environment Agency states that 20 million extra people will potentially be living and working in England and Wales by the 2050s² - this level of water consumption is just not sustainable in the long-term.

THE INDUSTRY CHALLENGE

In March 2009, the Environment Agency published its Water Resources Strategy for England and Wales³. It concluded that the way the UK manages, plans and invests in water is not fit for

¹ www.waterwise.org.uk

² www.environment-agency.gov.uk/research/library/publications/40731.aspx

the future, and that a more integrated and planned approach to water resources is needed to manage the risks and uncertainties that the pace of climate change and an increasing population are bringing to the fore.

When launching the UK Climate Projections 2009 Report (UKCP09)⁴ in June 2009, the UK Environment Secretary, Hilary Benn, stated that the UK must plan now for a hotter future that will bring extremes of flood and drought. He said that by 2080 London will be between 2°C and 6°C hotter than it is now, and that every part of the UK is likely to be wetter in winter and drier in summer. According to The Environment Agency, by 2050 climate change could reduce the amount of water available by 10 to 15%. Another 20 million people living and working in England and Wales by 2050 will seriously stretch the remaining resources even further⁵.

Faced with this stark reality, the water industry, alongside government, needs to make investment decisions now that will continue to have implications in more than 50 years' time.

Londoners cannot have failed to notice the work that Thames Water is currently doing to replace cast iron pipes that date from the Victorian age with more flexible plastic pipes designed to reduce leakage rates. On any given week, it is working in approximately 560 streets in the capital⁶.

However, the water industry is not attempting to replicate the current Victorian infrastructure with one that will last for another hundred years – indeed no water company would or could invest the large sum of money that would be required to do this.

Much broader economic, environmental and regulatory issues must be taken into account when considering investment in water infrastructure today. The Environment Agency believes that the water industry needs to plan and invest for security of the water supply by abstracting less water and using less energy, reducing and controlling leakages and investing in water capture and recycling technologies, such as rainwater harvesting and wastewater re-use.

⁴ <http://ukcp09.defra.gov.uk/>

⁵ www.environment-agency.gov.uk/research/library/publications/40731.aspx

⁶ www.thameswater.co.uk

The Institution of Civil Engineers (ICE) has also warned that Britain's water supply has dangerous weaknesses, and that the current piecemeal approach to improving utility networks is not sustainable. In the ICE's annual State of the Nation inquiry entitled *Defending Critical Infrastructure*⁷, it states that, "Well defended critical infrastructure is central to the security and stability of the nation. We must work now to fortify our networks or pay the economic, social and environmental price in the future."

But these vital infrastructure upgrades cost money and the water industry needs to increase water prices in order to implement the necessary changes to the supply of water to the tap, as well as to the part of the water bill that remains largely invisible – waste water treatment. At the same time, consumers need to be encouraged to cut their water consumption as it becomes more of a scarce resource.

A financial results announcement from Thames Water clearly illustrates this dilemma. In June 2009, it announced record profits of more than £605m, but also said that it needed to increase household bills by 17% above inflation over the next five years⁸. David Owens, its chief executive, was quoted as saying, "Decades of under-investment have kept our bills artificially low. Unfortunately this is unsustainable. They must rise so we can fund vital upgrades to our crumbling Victorian assets⁹."

The necessity to curtail water use as prices rise is not appreciated by UK consumers. In Berlin, people use about 25% less water than in the UK, but their water costs 2 ½ times more. This would not currently be acceptable in the UK, given consumer's lack of understanding of the true value of water. Despite the fact that people are happy to pay an average cost of £3.40 a litre for bottled water¹⁰, they are not prepared to bear that cost for the water from their taps.

⁷ www.ice.org.uk/state_of_the_nation/index.asp

⁸ www.thameswater.co.uk/cps/rde/xchg/corp/hs.xsl/9324.htm

⁹ www.guardian.co.uk/business/2009/jun/21/thames-water-profit-utilities-bills

¹⁰ Excellent Development www.excellentdevelopment.com/

A report from The World Economic Forum, published in January 2009, clearly outlines the situation we face if water scarcity is not addressed. It states that “As the world economy expands, demand for water will rise and continue to outpace population growth...water has been consistently under-priced in many places around the world and, as a result, has been wasted and overused.” It goes on to say that “Worsening water security will soon tear into various parts of the global economic system. It will start to emerge as a headline geopolitical issue. The volatility in food prices in 2008 should be treated as an early warning sign of what is to come¹¹.”

Water is the nexus linking together a web of food, energy, climate, economic growth and human security; the world simply cannot manage water in the future in the same way as in the past or the economic web will collapse.

Source: The World Economic Forum Water Initiative, January 2009

This highlights the severity and scale of the water scarcity problem. And while it is clear that regulatory and structural changes will go some way towards dealing with the issue, one of the biggest challenges the water industry faces is changing consumer attitudes about one of our most precious resources.

CONSUMER PERCEPTION

As outlined above, consumers tend to view water as being an infinite, self-renewing source, compromised by the industry’s inability to manage it effectively. In the UK, people simply take for granted that water will flow from their taps and be collected from their drains. The true value of water is confused in peoples’ priorities: many of those who are concerned about relatively small annual increases in their water bills pay much larger monthly connection costs for their home entertainment services.

A survey conducted by governmental advisers The Communications Consumer Panel¹² stated that many consumers believe that broadband is becoming as essential a utility as water or electricity, for example. Indeed the UK Prime Minister Gordon Brown wrote an article in *The*

¹¹ www.weforum.org/en/media/Latest%20Press%20Releases/PR_AM09_Water

¹² www.communicationsconsumerpanel.org.uk/smartweb/not-online-not-included/not-online-not-included

Times stating that “A fast internet connection is now seen by most of the public as an essential service, as indispensable as electricity, gas and water.”¹³

The fact that consumers view broadband as being as essential as water demonstrates that they do not appreciate its true value, or regularly consider its vital and life-sustaining contribution to every part of society.

The very English perception of the weather in the UK also distorts consumer attitudes to water. The general perception is that the UK is a wet environment, and yet the South East of England has less water available per person than Sudan and Syria¹⁴. While people continue to think the South East’s rainfall is sufficient to replenish water supplies, they will continue to assume that the water industry is making a fuss about nothing when it talks about conserving water. The conservation message gets even further confused as the UK is experiencing more floods than ever before and is likely to have much wetter winters according to UKCP09 forecasts, which predict that winter rainfall could increase by about 20% by 2080 in Scotland and the North West of England¹⁵.

Another challenge to altering consumers’ perception of water is that the money and energy spent on the treatment and transport of water to and from homes is hidden. People generally think that their bill relates only to the water coming out of their taps, and yet two-thirds of it in many areas is for the handling and treatment of wastewater.

According to Water UK¹⁶, the water industry collects, treats and supplies more than 16 billion litres of water per day to domestic and commercial customers and then collects and treats more than 10 billion litres of the resulting wastewater, returning it safely to the environment.

Waterwise¹⁷ research has also found that the energy used in one year to pump, treat and heat the water in the average family’s home produces the carbon equivalent of a return flight from London to New York.

¹³ www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article6506136.ece

¹⁴ Waterwise www.waterwise.org.uk

¹⁵ <http://ukcp09.defra.gov.uk/>

¹⁶ www.water.org.uk

This shows the scale of the work that goes on behind the scenes and is largely hidden from consumers. Until consumers are educated to appreciate the full services that the water industry provides and what their water bill includes, it will be difficult for them to make informed choices relating to their water use.

In fact, it is generally only when faced with the stark reality of not having enough clean and available water that people do change their behaviour towards it. During the droughts in the UK 2004 - 2006, all of the affected water companies used consistent messaging about the drought not being caused by the mismanagement of the water industry. They communicated that it was down to the fact that it was one of the most severe droughts in the last century in the driest part of the country. However, deliberative research for the Environment Agency, Communities and Local Government (CLG) and Defra shows that while publicity surrounding the drought raised awareness of an immediate need to save water, it failed to make the case for longer-term water efficiency.¹⁸

A pertinent example of this is in Australia, where consumers' experience of water has moved from one of price to one of value, but only because a long and severe drought has forced them to do so. In April 2007, Australia announced that it would have to switch off the water supply to the continent's food bowl unless heavy rains brought an end to the severe drought that had started in 2002, despite the fact that this would lead to wide spread crop failure and livestock dying. The severity of the situation forced people to take the effects of climate change seriously and change their behaviour relating to water¹⁹. When a region begins counting the amount of water left in days during a drought, reality hits home; and the conservation message starts to get through and permanently change behaviour.

But how can UK consumers' perception of water be moved from one of price to one of value before the situation reaches this critical stage?

¹⁷ www.waterwise.org.uk

¹⁸ <http://www.ipsos-mori.com/researchspecialisms/publicaffairs/socialresearchinstitute/envfoodruraff/understanding/water.ashx>

¹⁹ <http://www.independent.co.uk/news/world/australasia/australias-epic-drought-the-situation-is-grim-445450.html>

COMMUNICATING THE VALUE OF WATER

Before consumers' perceptions can be changed, the value of water needs to be defined beyond price. As discussed above, financial, social and environmental factors all need to be considered in order to instigate consumer behavioural change regarding water use.

Once the value of water has been defined, communicating this to consumers poses even more complex challenges. They cannot be treated as a homogenous group, and different messages are required for different types of people if attitudes to water are to be permanently changed. The regional differences in rainfall provide a good example of this. Communications messages relating to water conservation for people in the South East, where there is less rainfall, will not resonate with people in the North of England who are more used to experiencing heavy rainfall. The same underlying messages must remain, however.

And there are socioeconomic challenges, too. Compulsory metering, for example, is being considered to provide an answer to reducing water consumption. Anna Walker, Chief Executive of the Healthcare Commission, is currently leading an independent review of charging and metering for water and sewerage services, with the final report expected towards the end of 2009. The report will examine the current system of charging households for water and sewerage services; assess the effectiveness and fairness of current and alternative methods of charging; consider social, economic and environmental concerns; and make recommendations on any actions that should be taken to ensure that England and Wales have a sustainable and fair system of charging in place. These recommendations could include changes to current legislation and guidance²⁰.

Metering makes water use personal, much the same as energy use. It is evident that if consumers switch to metering they can clearly see how much money they are spending on water and reduce its use accordingly, following governmental advice. When use is monitored by a meter, it gives water companies the opportunity to communicate with consumers in a more educated and sophisticated way about their water use. Armed with more detailed information about consumption, water companies can provide users with comparative breakdowns that clearly demonstrate the true value of water and nudge the topic into the national conscience.

²⁰ <http://www.defra.gov.uk/ENVIRONMENT/water/industry/water-charging-review/>

Metering also helps water companies to address operational issues, because they have greater insight into consumer behaviour regarding water use.

However, there are social implications of compulsory metering because of the cross-subsidy that currently exists between those who can afford to pay more for their water than others, although this could possibly be countered with a social tariff to protect certain customers. In addition, using meters will not prevent people with lots of disposable income continuing to use as much water as they want because they can afford to pay for it.

More importantly, metering only accounts – in the consumer’s mind at least – for the incoming part of the water bill, so it doesn’t educate them about the costs incurred of transporting and treating the outgoing wastewater flow, too. Metering is therefore a double-edged sword, and not without risk. If water is over commoditised, some goals relating to its conservation are met, but not all of them. Many people within the water industry feel that if water is commoditised, the industry gets trapped into communicating about it on price alone. As discussed above, if the industry does not educate consumers on the overall public health and environmental services it provides, they will continually challenge price rises.

In reality it is currently socially and politically unacceptable to charge customers a price for water that would make them take the consumption of it really seriously, and so other ways of making them understand its value must be considered.

One way to do this could be to couple behavioural messaging with metering. This would enable people to be able to do the following:

- Measure their water usage
- Appreciate that the price they pay for it relates to the treatment and transport of water to and from their homes
- Realise that they can save money and help the environment by altering their behaviour regarding water
- Understand how they can do this

Behavioural messaging should also be supported with environmental messaging to ensure that consumers understand that the whole process of supply, treatment and use of water has an effect on the environment and thereby make water use more personal. For example, if the a water company can demonstrate that more fish will survive in the Thames if water is conserved, but that they need to make some serious investments in the future in order to do so, it allows them to communicate with consumers based on an tangible issue that some consumers will care about, rather than purely on price. A good example of this is a programme that Waterwise and the WWF are developing to address the issues affecting the rivers of the Thames basin and the effect that climate change is likely to have on them.

Another opportunity to engage with consumers about the value of water is by demonstrating the link between water and energy use. A significant amount of energy required in the home is used in heating water, and the link between the two is important. The government has announced that every home in the UK must be fitted with a smart meter by 2020 to reduce gas and electricity use, so consumers are becoming more aware of the need to conserve energy. This creates an opportunity for industry to emphasise the close link between energy efficiency and water efficiency and to point out how necessary they both are for a sustainable future.

CONCLUSION

If the water industry continues to communicate to consumers based on price alone, it will be difficult for it to achieve its twin aims of raising prices to better reflect the value of water and making substantial investments to conserve the UK's water resources. It will be increasingly important, faced with severe environmental challenges, to ensure that customers fully understand the importance of water and believe in why they need to conserve it before a critical situation is reached.

The water industry must work together if it is to clearly communicate the important work that it does, the work that needs to be done, the ways in which it protects the environment and the full scale of services that it provides, in a way that customers can relate to.

Water companies should approach consumers not as a homogenous group, but instead by considering the various factions of society and the messages that they will best respond to. The core message must remain the same, however; there is no room for compromise. We need to



act now to safeguard our water supply and that of future generations. We need to pay more for water and use less – there is no middle way.

Black & Veatch remains committed to serving water companies across the globe and providing the infrastructure required to move water, treat wastewater and protect the environment.

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