

# Agenda

## Advancing economics in business

### What does the Cave review mean for the water industry?

The Cave review, published in April, proposes a major shake-up of the water industry in England and Wales, including retail competition, reform of the abstractions system, and changes to the regulation and structure of the industry. Few would disagree that change is necessary, but how far should reform go, and over what timescale? What are the prospects for upstream competition? And what do the reforms mean for different types of consumer? Professor Martin Cave, Warwick Business School, gives his view of the steps required to meet the challenges

In February 2008, I was asked by government to undertake a review of competition and innovation in the water markets.<sup>1</sup> My remit was to recommend changes to the legislation and regulation of the industry in England and Wales which would deliver benefits to consumers—particularly the more vulnerable—and the environment.

The water industry has delivered a great deal since privatisation in 1989, and this should be recognised and applauded. But it has come at a cost. Bills have risen by 42% in real terms. There are ongoing challenges, including a backlog of infrastructure investment maintenance and higher customer expectations. And while regulation has realised efficiencies, there are also significant differences between the best- and worst-performing companies. Competition and innovation have an important role to play in addressing these issues. But as an industry made up of vertically integrated regional monopolies, there is little real competition between providers, few customers can choose their supplier, and takeovers are discouraged. Incentives to innovate are also limited and often do not exceed the risks.

So even under the status quo, there would be a strong case for reviewing the industry. But the challenges of climate change and population growth mean that the future cannot simply mirror the past. Projections for England and Wales indicate that net overall river flows could fall by up to 15% by 2050, with winters becoming wetter and summers drier, particularly in south-east England where 15% of water resource zones are already classified as seriously water-stressed. The population of England is projected to increase by 15%

to 62m by 2030, with the largest increases in those areas with least water available.

Together, increased demand and lower supply will place an incentive on the industry to find new and more efficient ways of allocating, treating and using water—not only to ensure sufficient supply, but also to protect the environment, through the use of fewer inputs and a reduced need for new assets. These changes will also have implications for the reliable collection and treatment of waste water, and the need for lower-impact discharge back to the environment.

#### Approach

In assessing the scope for, and benefits of, reform, I recognise that, over the long term, ongoing customer gains and environmental improvements are driven primarily by innovation. This may be the result of competition in the market or for the market, or it may be the result of market-like instruments or regulation encouraging companies to compete, either individually or in partnership, for business. For any given state of innovation, there may also be direct benefits to customers and the environment from the better use and allocation of resources, but there will be limits to the scale and scope of such benefits. Innovation can therefore be considered as the long-term driver of improved outcomes, and competition and regulation as drivers of improved outcomes in the short term and of innovation in the long term.

I am conscious that many of these recommendations are ground-breaking. In my final report, published on Budget day (April 22nd 2009), I therefore proposed a step-by-step approach to reform, starting where the

risk–reward ratio is most favourable. It is now for the government to review the costs and benefits of further change on the basis of experience to date, and for change to be implemented in consultation with the regulators, industry and other stakeholders.

In the shorter term, changes will include measures to extend retail competition to non-household customers and to initiate a market for abstraction and discharge licence trading. In the medium term, Ofwat (the regulator in England and Wales) will be able to implement changes to the regulatory framework as part of the 2014 periodic review. The government could also give consideration to extending competition to household customers on the basis of experience with business customers. In the longer term, the need for further reform of the upstream market, potentially through the creation of a franchising entity for the supply of water and waste-water services, could be

#### What next for retail?

**At the present time, only those non-household customers likely to use at least 50 megalitres a year are able to choose their retailer: such retailers are unable to offer attractive terms because of the current cost principle (that gives retailers very small margins), and the restriction of competition to water services. The vast majority of networked customers are supplied by their local incumbent, with prices and quality standards determined by Ofwat. While this ensures delivery of minimum service standards at a determined price, customers are unable to choose the combination of service and choice that they would like. Little weight is given to service or quality standards.**

**To address this, I have recommended that, in time, all non-household customers should be able to choose their supplier. The retail arms of water companies should also be legally separated where this is in customers' interests. Given the costs of introducing choice and the size of the average domestic bill, the case for extending competition to households is weak, although I would expect this to change in the future.**

**These changes should be accompanied by negotiated settlements between the Consumer Council for Water, retailers, wholesalers and other stakeholders, to determine quality and service standards for wholesale and retail supply to households. Initially, these settlements should have a weight in price limits of  $\pm 3\%$  of turnover. It will be for retailers, together with other stakeholders, to negotiate the size of the settlement, whether it is symmetrical, and what service and quality improvements the local incumbent should deliver.**

**Together, these measures will allow many non-household customers to choose the combination of service and price that they prefer. Retailers will also be able to better represent their customers' interests with wholesalers. Although household customers will not be able to choose their supplier, they will benefit from any spillovers from non-household competition and will have a greater say over the services they receive.**

assessed on the basis of the costs and benefits at the time. The box below highlights the review's recommendations for retail competition and the regulation of retail service standards.

## Abstraction and discharge

At present, abstraction licences are issued on a first-come, first-served basis. Charges are limited to cost recovery and are relatively crude. Many historical licences are in perpetuity, although, more recently, licences have been issued on a time-limited basis.

While such a framework supplies water at low administrative cost, it fails to ensure that water goes to those who value it most or that it is used efficiently. I therefore recommended that, where licence levels are sustainable, licences should be fully tradeable. In those areas which are over-licensed, the Environment Agency should adopt a risk-based approach, allowing trading where actual abstractions are below the sustainable threshold. In over-abstracted areas, the Environment Agency should reduce abstraction levels through negotiated agreements, reverse auctions and the greater use of existing powers. Where abstraction volumes do not fall sufficiently, a scarcity charge could be introduced and increased over time to encourage holders to trade or retire licences and realise the true value of water. Such an approach would support the efficient and sustainable abstraction of water across England and Wales by encouraging incumbents and others to exploit differences in the availability of water and the cost of alternative measures (such as leakage control) to meet supply at the lowest economic and environmental cost. This would include not only the optimisation of water resources within company boundaries, but also between companies through the transfer of raw and treated water.

The current system of discharge consents suffers from the same problems. Consent holders should therefore be able to trade their discharge. In addition, the Environment Agency should pilot trading between point sources and diffuse emissions. Consent conditions could also better reflect the impact of discharge on the environment, for example, through real-time control.

Together, these measures would encourage the more efficient and sustainable discharge of waste water, delivering benefits to both customers and the environment through reducing the cost of meeting consents, encouraging the discharge of water where it is of most value, reducing the need for inputs (such as chemicals and energy) in existing treatment works, and decreasing pressure for new capacity.

## Upstream

The provision of water and waste-water treatment, sludge treatment, disposal and infrastructure is currently dominated by the local, vertically integrated,

monopoly incumbent. The scope for innovation is therefore primarily determined by Ofwat's system of economic regulation. While such an approach ensures that customers receive a significant share of any efficiency savings and do not pay for failure, it also deters companies from investing in risky, but potentially more valuable, innovations. In contestable activities, competition could stimulate innovation. Consistent with a step-by-step approach, I recommend that the Water Supply Licensing regime should be reformed. The costs principle should be abolished and replaced with an access pricing rule that provides competitors with a fair return for efficient entry. The licence should also be unbundled.

Ofwat should also introduce an economic purchasing obligation, requiring incumbents to procure the best value combination of water, waste water and infrastructure supplies as part of the regulatory process. Companies' decisions would be made internally and endorsed by Ofwat. More information will also be vital to better decision-making. Water companies should therefore be obliged to publish water and waste-water supply costs at a water resource zone level and transport costs across their regions, based on a common methodology. At a later stage, an independent franchising entity contracted to ensure delivery of water and waste-water services at best value could deliver greater benefits to customers and the environment. While there is scope for introducing competition in parts of the country and for certain elements of the value chain, at the current time the cost–benefit ratio is more uncertain.

Of course regulation will continue to be important in driving efficiency and innovation in water and waste water treatment, and it will have an ongoing role in the development of the network. I therefore support Ofwat's decision to introduce the Capital Expenditure Incentive Scheme. But such an approach could be taken further as part of the 2014 periodic review. Companies should be given a greater incentive for significant and sustained outperformance. Such an approach should also be applied to operating expenditure. Ofwat should address any bias towards capital expenditure by introducing a capital–operating expenditure ratio assumption for individual companies as part of the periodic review settlement.

Such an approach, reforming both the regulatory and market frameworks of the industry, would encourage greater innovation and the better use of existing resources, and would reduce the cost of new or replacement assets. This would benefit customers through lower prices, and the environment through the development and adoption of alternative technologies and the more efficient use of existing assets.

## Industry structure

Currently, the special merger regime means that any water company with an individual turnover of more than £10m is unable to merge without a referral to the Competition Commission. While such a regime supports Ofwat's current approach to regulation, it also reduces management incentives, limits the scope for the transfer of best practice between companies, and increases financing costs. In the case of neighbouring companies, it also prevents the more effective optimisation of assets, including water resources. The use of other approaches for assessing company performance, the introduction of accounting separation, and the development of retail competition will also reduce the need for any given number of comparator companies.

I believe that the threshold for the special merger regime should be raised to £70m and applied to the smaller of the merging companies, as with the wider merger regime. For mergers above this threshold, the Office of Fair Trading should be given authority to undertake a Phase 1 assessment of potential mergers. To support such an approach, Ofwat should publish a methodology for assessing the loss of a comparator. This should be transparent, based on clear criteria, and replicable. Consolidation should result in increased efficiency, higher service levels, greater levels of research and development, and the better use of resources.

## Innovative capacity

The current framework of economic regulation does not encourage significant investment in research and development, or the trialling or adoption of innovations. This is because the current risk–reward ratio may not be sufficiently attractive to companies. Moreover, any increase in operating expenditure may be viewed as an apparent increase in inefficiency. While such a system ensures that companies consider the short-term value for money of spending, it may come at the expense of long-term industry performance.

The government, industry, regulators, suppliers, research councils, Technology Strategy Board and others should agree a shared research and development vision for the industry. This should be supported by an industry research and development body which would allocate funding of up to £20m per year to support research, development and trialling. Ofwat should also be given a clearer mandate to support innovation, through a statutory duty. Such an approach would increase companies' capacity and competence to undertake and lead research and development, and would increase innovation levels in the industry.

## Next steps

I believe that the recommendations above have the potential to create and support a world-class industry that will be able to respond effectively to the challenges and opportunities of the 21st century. The net present value of these changes could be £2.5 billion over 30 years.<sup>2</sup> There would also be significant

non-monetised benefits, including improved environmental outcomes and higher service and quality levels. The government set out its response to my report in the 2009 Budget.<sup>3</sup> I look forward to working with the government, the regulators and other stakeholders in taking the review's recommendations forward.

**Martin Cave**

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<sup>1</sup> Cave, M. (2009), 'Independent Review of Competition and Innovation in Water Markets: Final Report', April 22nd. All data cited in this article is taken from the report.

<sup>2</sup> This figure comprises the following: purchase obligation, £1,300m; reform to water supply licensing regime, £400m; inset modernisation, £300m; and retail competition, £600m.

<sup>3</sup> HM Treasury (2009), 'Budget 2009: Building Britain's Future', Chapter 4, p. 78, Box 4.5, para. 4.28.

**If you have any questions regarding the issues raised in this article, please contact the editor, Derek Holt: tel +44 (0) 1865 253 000 or email [d\\_holt@oxera.com](mailto:d_holt@oxera.com)**

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