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Agenda

Advancing economics in business

Regulation on tap: looking ahead to PR09

What are some of the key challenges for the 2009 periodic review of prices for the water and sewerage industry in England and Wales? Dr Melinda Acutt, Director of Network Regulation for Ofwat, the industry regulator, identifies improved cost–benefit analysis and long-term planning as vital in the run-up to 2009

Ofwat is the economic regulator of the water and sewerage companies in England and Wales, as well as the companies newly licensed under the 2003 Water Act competition regime. The water industry in England and Wales provides water and sewerage services to 53m people living in 23m connected properties. In order to provide these essential services, the water industry maintains assets with a replacement value of £200 billion. Every year, the industry invests almost £3.5m in maintaining and improving its assets and services.

Our primary role is to protect consumers of water and sewerage services. We want to see a world-class water industry—that is, an industry that delivers a world-class service that is best value to customers, now and into the long-term future.

The services provided by water companies display a range of characteristics. The provision of safe, high-quality drinking water whenever a consumer turns on a tap involves both quantity and quality aspects, as does reliable waste water treatment and disposal. While some aspects of these services are similar in nature to private goods, others are shared or public goods, where consumption by one party does not reduce the possibility of consumption by another party, and all consumers receive the same level of service. Consumption of a unit of drinking water is clearly a private good, but the water industry's role in ensuring security of supply, or maintaining river water quality, has more of a public good element.

The characteristics of the services provided by the industry mean that there are no market prices for them and, therefore, the industry has to look beyond market mechanisms to determine the best level of provision of its services.

The challenges

The next periodic review of prices will be in 2009 (PR09), by which time the current industry structure will have been in place for almost 20 years. The regulatory process has developed and matured over this time. Substantial efficiency savings have been made and passed on to consumers in the form of lower bills than would otherwise have been levied, and significant improvements to customer service and the industry's environmental footprint have been delivered. However, there is still much to be delivered, and many complex challenges facing the industry. There is pressure for further improvements in environmental performance, for increased services (for example, through the possible adoption of private sewers by water companies), and for continuing incentives to drive efficiencies to deliver vital services to consumers at affordable bill levels.

This is currently set against a background of drought, which is the issue of most immediate concern to customers. We have seen the most prolonged dry period since 1933, leading to serious reductions in the availability of raw water. We must not underestimate the impact of this on consumers and businesses, who consistently rank safe, reliable drinking water as their top priority for the industry. Planning for and managing drought are fundamental to a water company's business and is a risk for the company to bear. Companies need to take whatever action is necessary to safeguard supplies, while minimising the impact on the environment. Drought puts the industry in the spotlight, and customers begin to question the reliability of services that they may otherwise tend to take for granted at a time when companies need customers to play their part in preserving supplies by using water wisely. In such circumstances, retaining customers' trust is vital, and companies need to show that they are playing their part

This article is based on 'Objectives for the Water Services Regulation Authority', a presentation by Melinda Acutt at the Oxera conference, 'The Future of Infrastructure Regulation', London, May 15th 2006.

by, among other things, controlling leakage levels. We have recently taken regulatory action and received a legally binding undertaking from Thames Water to significantly increase its investment, at the company's expense, to bring its leakage under control.[1]

Yet planning for the right level of risk to supply interruptions provides a real challenge. Historically, market research has shown that customers are reluctant to pay more to reduce the likelihood of hosepipe bans. There is clearly a need to understand customers' views and the value of enhanced security of supply in the face of drought.

Sustainable development challenges us all, and the water industry is no exception. The 2003 Water Act gave Ofwat a new statutory duty to contribute to the achievement of sustainable development, and we have recently consulted on our approach.[2] The UK government's definition of sustainable development is to 'enable all people throughout the world to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations'.[3] Our consultation adopted the government's principles for sustainable development to guide our thinking and our interpretation of our new duty as seeking 'value in its broadest sense', incorporating social and environmental considerations.

The independent review of Ofwat's 2004 periodic review process (PR04), while being generally positive about Ofwat's approach, set out some clear challenges for us in taking the regime forward to 2009.[4] This included developing a clear, long-term vision, and pursuing clear consideration of costs and benefits. The review recommended extending the scope of cost–benefit analysis to improve the environmental programme's value for money against a background of concerns about affordability. Water UK has also highlighted long-term planning and cost–benefit analysis in its recent analysis of the current regulatory challenges.[5]

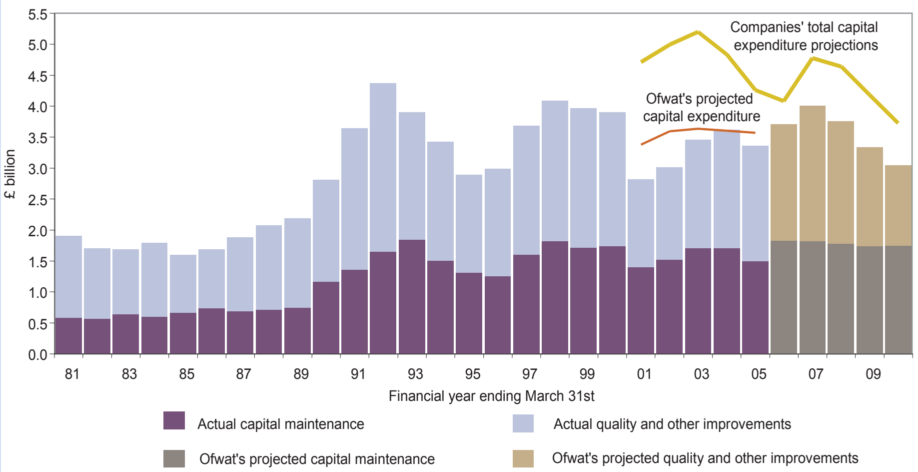
It is therefore vital that robust tools are used across the industry to identify the right levels of service and expenditure in planning for the next periodic review of prices and beyond.

An investment roller coaster?

Figure 1 shows capital investment by the water companies in England and Wales since 1981. The rise in investment levels since privatisation is clear, as are the five-year regulatory cycles. These cycles show a 'roller coaster' of investment, with dips at the beginning and the end of the five-year regulatory periods. The regulatory regime has been developed over time in an attempt to smooth out these peaks and troughs. The rolling incentive mechanism was introduced to maintain incentives for companies to outperform at any point in the five-year period. This mechanism allows companies to retain outperformance for five years before passing it on to customers, regardless of when the outperformance occurs in the regulatory cycle.

The 'early start' programme was launched as part of PR04 to give companies certainty over funding of schemes due to be delivered early in the subsequent regulatory period. Companies proposed schemes for inclusion and were notified of the 1,037 capital schemes (with a total value of £1.1 billion) included in the early start programme in December 2003, a full year before Ofwat's final determinations for the period 2005–10. All early start schemes should be completed by March 2007. Figure 1 shows that any roller-coaster effect has been becoming smoother over time, but there is room for further progress.

Figure 1 Actual and projected capital investment



Source: Ofwat.

We will need to review companies' 2005/06 expenditure carefully to assess the effectiveness of the early start programme. Anecdotal evidence is not encouraging, however; rather it suggests that, despite the early funding commitment, schemes have not been passed through to those capital partners and contractors charged with delivery on the ground. Discussion at recent industry workshops suggests that the impasse may be due to water companies' timing the reorganisation of their capital partnering and contracting arrangements to coincide with the start of the regulatory period. Ofwat is participating in a study, along with supply chain organisations and UK Water Industry Research, to understand the implications for the efficiency of the supply chain of the investment roller coaster. The project will aim to identify potential solutions, whether they be further refinements to the regulatory regime, or actions that companies can take, such as lengthening the periods of their capital partnering and contracting regimes as part of longer-term investment planning.

The role of cost–benefit analysis

Economic analysis is central to good investment planning. This was a message that Ofwat emphasised to companies, following PR99, in a letter to managing directors in April 2000.[6] This letter called on companies to develop their approaches to investment planning by producing economic appraisals of the options for maintaining serviceability to customers. The industry responded through the development of the Common Framework, which provided an agreed framework and set of approaches for long-term asset management planning. Significant progress was made by the industry in applying these principles during PR04, and the Common Framework informed our processes for assessing and challenging companies' asset management plans.

Following reviews of PR04, in February 2006 we wrote to companies again, welcoming the advances made and reiterating the need for companies to develop the quality of their data and analysis in order to demonstrate a clear understanding of the economic level of capital maintenance expenditure (MD212).[7] Our feedback emphasised the fact that the Common Framework should not be seen purely or mainly as a tool to inform regulatory submissions, but rather as a set of principles and techniques to inform business decisions and planning. Indeed, this idea of integration with 'business as usual' was reflected in the assessment criteria we used at PR04, with companies that demonstrated that their planning was informed by economic principles receiving more favourable assessments.

Although economic analysis, with attention to the benefits as well as the costs of potential actions, has always been important in identifying worthwhile drinking water and environmental quality improvements, the arrival of the Water Framework Directive (WFD) makes economic analysis central to environmental quality planning. The WFD will be implemented incrementally, over three six-year planning cycles. It is the first Directive in the water sector to have economic analysis at its heart. This includes allowing exemptions from carrying out even cost-effective measures where these are disproportionately expensive.To understand whether potential options are disproportionately costly, soundly based information is required on both costs and benefits.

The increased requirements for economic analysis to robustly justify company expenditure and its impact on customer bills are a very positive step forward. Responsible use of sound science and economic analysis is integral to seeking our sustainable development goal of value in its broadest sense. We are working with government, quality regulators, the industry and stakeholders, including consumer groups and non-government organisations, to develop these economic approaches. In developing investment programmes, there must be an underlying assumption that, when there are so many calls on limited resources, it is prudent to ensure that all investment has been demonstrated to be worthwhile before raising water bills. The most consistent and transparent way of doing this, and, hence, to foster the legitimacy of the plans, is for all expenditure to be justified by comparing its benefits with its costs.

Estimating the benefits of activities is necessary when they are not provided by the normal market mechanisms. The benefits associated with the services provided by water companies are not revealed by the operation of a market due to their monopoly and public good characteristics and because many of the benefits, such as knowing that one's neighbours are not suffering from sewer flooding, are not felt directly by the bill payer. Decisions that are taken without reliable information make implicit assumptions about the benefits associated with the activity. It is far better to make these assumptions explicit and transparent through robust cost–benefit analysis. With competing pressures on customers' bills, it is vital that cost–benefit tests are applied so that the industry can be sure that it is 'doing the right thing' and can justify this to its customers and other stakeholders.

Cost–benefit analysis is not just for the regulators or for the companies' periodic review business plan submissions. Used in the day-to-day prioritisation of a company's activities, it can play a key role in driving efficiencies, and providing dynamic incentives to ensure the continued pursuit of the right activities (not simply the least-cost ones). Cost–benefit analysis should not just be used once every five years and then put aside, but, as emphasised in MD212, should be an integral part of 'business as usual'.

Planning for the longer term

Another challenge highlighted in Figure 1 is the gap between company plans and Ofwat's determinations. Economic theory suggests that the optimal strategies of parties in a one-shot game (a situation that is not repeated) are quite different from those in an infinitely repeated situation. In a repeating situation, companies and regulators should expect the other parties to learn from experience and to build in expectations of the other parties' reactions when deciding on their own actions. For example, it becomes less and less credible for a company to state that further efficiencies are impossible, only to then substantially outperform the regulator's determination. With a maturing regulatory regime and the experience of the number of periodic reviews conducted to date, the challenge is increasingly for companies to propose ever more realistic plans.

Companies need to work with their stakeholders to identify the best-value package of expenditure and service for consumers and the environment for the long term. Long-term planning is vital for sustainability and makes business sense. As efficiencies become more difficult to achieve, companies can gain ground by planning further ahead and proposing strategies that take account of longer-term considerations, such as climate change.

Economic theory tells us that, as investment increases, returns may be expected to diminish and become more complex, since interactions with other sectors and polluters (such as diffuse pollution from agriculture) need to be considered to determine where the next tranche of cost-beneficial improvements should come from. This makes benefits more uncertain, and the need to monitor and observe the effectiveness of steps already taken before embarking on the next, even more expensive option, becomes more important.

There is a clear need to move to long-term planning for all aspects of water companies' activities. The development of 25-year water resource planning, along with the capital maintenance planning Common Framework, provides approaches that can be built on for other areas of companies' planning. For example, the industry is working on delivering 25-year plans to balance sewerage supply and demand. Ofwat is working with the water companies and others to play our part in developing long-term, cross-sectoral plans for the implementation of the WFD. The clear challenge lies in developing 25-year plans across the whole range of services provided, including quality investment.

Conclusion

We want to see companies providing consistent best value in the service they deliver to consumers and the environment. This means that companies need to take account of both costs and benefits and to consider both capital and operating expenditure, across base service and improvements, in an integrated and coherent manner. Our regulatory processes should offer incentives for this, promote sound asset management planning and challenge poor-value investment.

The clear challenge for all parties is to identify long-term plans that provide best value, taking account of financial, social and environmental implications. The challenge to water companies is to take a lead and submit to Ofwat business plans that identify this best-value plan, are supported by their quality regulators and consumers, and close the historical gap between company submissions and regulatory determinations. The challenge for Ofwat is to regulate in a way that encourages companies and other parties to deliver this vision. This requires maturity from all parties, with companies considering success as obtaining regulatory sign-up for them to do the right thing, and the regulator being able to protect consumers by challenging and incentivising companies to do the right thing.

Melinda Acutt

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[1] Ofwat (2006), 'Thames Water Pays the Price for its Leakage Failures', PN 19/06, July 4th.
[2] Ofwat (2006), 'Contributing to Sustainable Development: A Consultation on Ofwat's Approach', February.
[3] Defra (2005), 'Securing the Future: The UK Government Sustainable Development Strategy', March.
[4] Independent Steering Group (2005), 'Report into the Conduct of the 2004 Ofwat Periodic Review: A Report Commissioned by Ofwat from the Independent Steering Group', August. For Ofwat's response, see Ofwat (2006), 'Ofwat Response to Independent Steering Group Report into the Conduct of the 2004 Ofwat Periodic Review', MD214, March.
[5] Water UK (2006), 'Simpler, Smarter, Better', March. Available at www.water.org.uk.
[6] Ofwat (2000), 'Maintaining Serviceability to Customers', MD161, April 12th.
[7] Ofwat (2006), 'Asset Management Planning to Maintain Serviceability', MD212, February 2nd.

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

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