



# UK WATER INDUSTRY RESEARCH LIMITED

Promoting collaborative research

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## **Setting Price Limits for 2010 – 2015, OFWAT consultation**

### Introduction

1. UK Water Industry Research (UKWIR) is the company established in 1994 by all UK Water Service providers to facilitate and manage collaborative research on 'one voice' issues. UKWIR's members have requested that UKWIR should respond to OFWAT's consultation paper, focusing on OFWAT's views on innovation and research and development (R&D).

### Background

2. The most pressing challenges facing the water companies are driven by
  - demographic changes – smaller household size, continued migration to the South East, older population
  - an ageing and leaking asset base – one half of the distribution system in London is more than 100 years old
  - and climate change – increasing energy use to meet tighter environmental standards, the prospect of increased flooding, and potential water resource problems.

Significant investment will be required to address these challenges, and to ensure that investment is properly channeled to deliver cost effective improvements, it is vital that the investment is underpinned by sound research, development and demonstration.

3. Research and development in water companies has helped to deliver cost-effective compliance with the European Drinking Water, Bathing Water and the Urban Wastewater Treatment Directives. However, water company investment in R&D has more than halved in the past eight years.



- It is not clear at this stage what this declining investment in R&D means for the water sector. It could be an institutional failure of the regulatory processes as a surrogate for competition, or a healthy efficiency for customers and companies.
- DTI have identified a lack of innovation in the industry compared to others, based on percentage of turnover, and are seeking to encourage increases in R&D spending in targeted sectors, including the environment, with some specific initiatives.

In view of the lack of certainty on this issue, it is a cause for concern that the situation is deteriorating by default.

4. In May 2005 a national workshop entitled Innovation in the Water Sector concluded
  - there was a need to develop a longer term research agenda for the industry
  - the water companies need to improve engagement with the supply chain, especially SMEs
  - there was a need to integrate innovation into longer term business planning

Following this event, DTI, UKWIR and OFWAT funded a project to examine the Barriers to Innovation in the water sector, which concluded

- *"there is misalignment of expectations between the supply-chain, the water companies, the regulators and government which is limiting the sector's ability to fully exploit its capacity for technological innovation sustainably to meet the future needs and challenges of UK and world markets."*

This misalignment may be partly because of the risk-averse nature, strategies and purchasing policies of the water companies. These internal barriers probably relate to the economic regulation system insufficiently stimulating or rewarding innovation beyond the five-year price setting cycle. The fragmented supply-chain feels it has much to offer but



seems unable to engage in a strategic debate on needs and product/process development.

### International comparisons

5. Research in the UK, Europe and the USA has shown that former nationalised utilities decrease their R&D spending following privatisation and deregulation. The research concludes that they perhaps understandably become service oriented and more cost conscious and it appears to be the long term 'public good' research which is lost.
6. In the deregulated electricity sector, Dooley (1998) concluded that "long-term R&D is unlikely to be supported by individual utilities in a competitive, deregulated utility market" There is no reason to believe that water companies operating in such a competitive deregulated market will respond any differently. More recent research by Sterlacchini (2006) and Jamasb et al (2006) supports those conclusions, despite an additional eight years of competitive deregulation in the energy sector.

### UK Government reports

7. The Sainsbury report 'UK Innovation – The Race to the Top ' published in October 2007 discusses the impact of regulation on utility R&D investment. Information is presented and discussed on the declining R&D investment in the electricity and water sectors and the report recommends

*"Regulators should review their policies to ensure that the appropriate level of emphasis is given to innovation in their decision making in the price-regulated sectors, to protect the interests of both current and future consumers. We would like consideration to be given on how innovation could be incorporated into their duties"*

8. The Commission on Environmental Markets and Economic Performance (CEMEP) published their report in December 2007. The report examines how the environmental sector in the UK can be stimulated to innovate to the benefit of UK PLC. Like Sainsbury, they review the impact of economic regulation on R&D investment and the report recommends that



*“Government should review the duties of the economic regulators in the energy and water sectors to give greater prominence to the importance of environmental innovation in meeting sustainability goals, and back this up with guidance as to how a more complex set of duties might be interpreted”.*

9. The UK Trade and Investment’s Environmental Sector Advisory Group (ESAG) report, *The UK: A World Leader in Environmental Solutions*, reported on the strong global competitiveness of the UK environmental technologies sector, but also identified that *“it is the early adoption of new technologies that will be key to the UK remaining competitive in this area”.*

As confirmed in the UKWIR *Barriers to Innovation* report, OFWAT methodologies effectively create a risk averse culture within companies so that early adoption of new technologies is very unlikely.

#### OFWAT proposals

10. Paragraph 1.3.1 of the consultation paper states

*“competition can drive dynamic efficiency and spur innovation in a way that regulation cannot.....competition is fundamental as a driver of efficiency, choice and value”*

and it goes on to add

*“.....until effective competition develops we still have to set price limits to protect customers”*

These statements are true in deregulated competitive, open markets; they are not supported by evidence from the deregulated energy utilities. R&D in the electricity distribution sector had declined to almost zero by 2002. As a result in 2004 OFGEM introduced two financial incentives to address the situation. They extended this scheme in 2007 to make up to £180M available for investment and research between 2005-2015.

11. It may be that following some years of ‘vigorous competition’ that innovation and R&D investment will rise in the water sector,



but as Ofwat acknowledge until that develops, they “*still have to set price limits for customers*”. We believe that they should also support the need for a longer term national research programme to the benefit of all customers’.

12. In some cases it is possible that failure of the OFWAT pseudo-market mechanisms to function may lead to customers paying a higher price for solutions to water sector problems than might result from a more innovative approach. However in other cases, this is much less clear and an absence of policy has meant that the balance of risk is against companies or the supply chain innovating, due to the uncertainty involved. The present regulatory system does not incentivise R&D investment, which by its nature can be uncertain in outcome. The balance between risk and reward is skewed and such that water companies will tend to avoid R&D risk that can carry an uncertain return and regulatory treatment.

### Conclusion

13. R&D investment in the water sector has declined by 60% since 2000. International research primarily in the energy sector, shows that R&D declines in competitive, deregulated markets. Ofwat’s claim that vigorous competition will stimulate innovation is unlikely to be delivered and a further decline in R&D investment may result. The water sector faces major challenges, which are unlikely to be met by incremental technological change. Significant R&D investment is needed, extending beyond the five year regulatory period, which Ofwat should support.

### Proposal

14. OFWAT’s approach to uncertain outcomes needs to be amended to encourage innovation by changing the penalty/reward balance. In the short to medium term this will provide a much bigger stimulus for research than competition. In addition, in the price review OFWAT should allocate funds to support specific longer term R&D investment.



Dooley, J.J. (1998) Unintended Consequences: Energy R&D in a Deregulated Energy market, *Energy Policy*, Vol 26, No 7. pp 547-555  
Sterlacchini, A. (2006) The R&D Drop in European Utilities. Should we care about it?, *DRUID Working Paper* No. 06-10, September 2006  
Jamasp, T, Nuttall, W, & Pollitt M (2006) The Case for New Energy Research, Development and Promotion Policy in the UK, *State of the Science Review* for Office of Science and Innovation