Changing the bathwater
Discussion paper on water policy

Indepen

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Foreword by Chris Bolt CB PPP Arbiter

My involvement and interest in water regulation goes back a long way – starting in 1978, with the performance targets and external financing limits which were the forerunner of post-privatisation regulation by Ofwat. There is little doubt that the performance of the water sector has improved dramatically since privatisation, in terms both of its operational performance and efficiency.

But the context is changing rapidly. With increasing concerns about environmental impacts and about the resilience of networks, all the regulated networks face an increasing investment challenge. And against a background of economic stringency, customers rightly want to be assured that companies are delivering value for money and are innovating to maintain this drive for efficiency and improved service.

This creates a challenge for government, regulators, companies and customers. Government needs to set out a clear strategy for national infrastructure, taking account of interactions between networks and of the wider economic benefits of improved resilience. But this must not be a straight-jacket. Companies must have the right incentives to identify and deliver a programme which makes the best contribution to that strategy, taking proper account of the views of their own customers. This in turn assumes that customers can give informed views about their preferences in the longer term.

In some quarters, there is a perception that the current model of economic regulation, which is essentially that developed immediately after privatisation, is part of the problem. In my view, that perception is wrong: regulation is better seen as part of the solution. But it will only be part of the solution if it continues to evolve to meet new challenges: regulators must become more efficient and effective if the sectors they regulate are to do so.

This need to evolve applies to environmental and safety regulators, as well as economic regulators. But there are particular challenges for Ofwat as it prepares for the next water price review.

Indepen's discussion paper is a valuable contribution to this debate. It highlights issues which most acknowledge are key to improving our chances of meeting future challenges but which are often dismissed as being too difficult to resolve. Given the range of organisations and interests involved, this is perhaps understandable, but Indepen's aim to use the paper to try and secure better engagement on alignment of objectives and responsibilities is to be welcomed. If Ofwat and companies operating in the water sector can develop new approaches which meet the aspirations of both Government and customers, everyone wins.

Chris Bolt CB, PPP Arbiter

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1 Introduction

1.1 The water reform project

This discussion paper is part of a project that Indepen is leading on water policy and regulation. The motivation for this project is the need for policy to respond to certain imperatives for change

- climate and population related challenges – water efficiency, resilience of the water and sewerage infrastructure and carbon reduction
- the need for the sector to retain its ability to attract investors in the context of the high level of demand for investment elsewhere
- the need for the water sector to innovate to improve productivity thereby avoiding bigger problems with the level of water bills and affordability
- a desire for more customer choice and influence over the services that they receive and pay for.

There is consensus on the nature of these pressures but less so about what changes there should be in water policy and regulation and on how to implement them.

The objective of the first part of the project is to promote the adoption of policies that work and are unlikely to be overturned. Our approach has been to obtain investor, company and stakeholder input on the issues and to promote the idea that if the right people are involved with the right information at the right time there is likely to be a good outcome.

1.2 Sponsors

The first part of the project has been sponsored by five water and sewerage businesses in Great Britain. They have funded the project, worked collectively on the emerging themes and taken part in a series of workshops on them.

The project's sponsors were the following.

- Anglian Water
- Scottish Water
- Severn Trent Water
- Wessex Water
- Yorkshire Water

In addition, as part of the project, we interviewed a range of sector participants, potential entrants, investors and stakeholders - Appendix A of the discussion paper contains a list of those to whom we spoke. We received a positive response to the project and there was widespread acknowledgement that things need to change.

The outputs from the first part of the project are

- guidance for ministerial teams and officials on where we are now in terms of the water policy landscape and architecture and issues to be addressed – the discussion paper is one manifestation of this
- awareness raising with investors, policy makers, regulators and stakeholders, including various briefings and a roundtable discussion under the auspices of the Indepen Forum for Chief Executives (*Regulation, where next? A water perspective*, speaker Philip Fletcher, Chair Chris Bolt on 23rd June)
- proposals for a model of engagement whereby policy makers and regulators can obtain investor and company input to policy development.

The direction and content of subsequent work on the project will depend to some degree of the reaction to this discussion paper although we anticipate that the next part will include some elements of testing out the approaches we recommend and developing input to Ofwat on its priorities and processes for the 2014 price review (PR14).

1.3 This discussion paper

The purpose of the paper is to present the desirability of changes in the policy towards water in England and discuss how to take these forward. Its foundation is the work we have done with the sponsor companies and a review of the evolution of policy and the sector since privatisation.

Rather than provide a report of the work undertaken in the project, the paper focuses on messages for the reform and implementation of water policy. These relate to matters that need to be resolved to ensure that details of industry structure, markets and regulatory reform are taken forward effectively.

While the scope of water policy is the whole of the water cycle, the water sector[1] is the biggest piece of the jigsaw and will be the locus for much of the implementation of any new policy. A sustainable water cycle will depend on improved performance and innovation by the sector and the topic of this paper is how to achieve this.

A series of expert reviews has focused on what should change in specific aspects of water policy. This paper starts with the raft of recommendations from these reviews and explores how the changes might happen. We have worked with the sponsor companies and engaged with stakeholders in the sector to understand their attitudes to change and to the proposals that are on the table.

[1] By the phrase water sector, we mean the companies (10 water and sewerage companies and 13 water only companies) that provide water and sewerage services in England and Wales, and their customers. Important aspects of water and environmental policy are devolved to the administrations in Scotland, Northern Ireland and to a lesser extent Wales. While much of the content of this paper may be relevant to all of these countries, the differing institutional arrangements and policies would make it unattractively complicated to present a picture for the whole of the UK.

This demonstrated a widely held view that there was a lack of direction, joining up and decisiveness in the sector. This has led us to focus this paper on the overall policy picture and the role that the companies might play in informing change.

There may be further discussion papers on more detailed issues arising from the project. Their form and content will depend on the response that we get to this paper from stakeholders.

1.4 Indepen

Indepen is a strategy and economics consultancy. We seek to create value with clients facing the challenges of regulation, deregulation, competition and restructuring. We help formulate strategy and manage the political and regulatory risks. We add value by developing business and regulatory strategy that takes into account stakeholder interests and aligns with good public policy.

We work with boards on transforming organisations to support strategy implementation. Our work builds on our understanding and experience of government and regulators and businesses and investors, as well as other forms of enterprise. We use our knowledge to challenge constructively. Our thinking, grounded in the underlying economics, is independent and rigorous.

We have worked in the water sector in the UK and elsewhere since the early 1990s and have advised government departments, regulators, companies and investors.

1.5 Acknowledgement and responsibility

We are grateful to our sponsors and all others who have contributed to the work on which this paper is based.

Indepen has written the paper and is responsible not only for its conclusions but also for any errors of omission or commission.

The sponsors, while believing the paper to be an important contribution to the debate, do not necessarily agree with all of it.

2 Context and the need for change

The context for water policy is complex and changing. This section discusses

- some of the causes of the complexity
- performance of the sector since privatisation
- topical issues and policy reviews
- UK infrastructure considerations
- current water policy.

It concludes that there is a need for policy reform.

Section 3 proposes a framework and process within which to consider what the changes should be.

2.1 Complexity

Some of the complexities are as follows.

- The pervasiveness of the water cycle, the large number of other sectors that water policy will affect and the number of issues that have policy implications means that, within Defra, water policy will affect a number of functions and agencies and more broadly it has implications for other departmental portfolios, including those of BIS, CLG, DfT, DECC and HMT.
- The extensive externalities[2] associated with water and sewerage services including
  - public health
  - effects on the aquatic environment
  - economic development
  - effects on climate.
- The long-term nature of the sector's assets and the time it will take for any changes to happen. This means that decisions taken now, for good or ill, will continue to affect future generations.
- The fact that part of the sector is a natural monopoly as it is considered uneconomic to duplicate facilities such as water pipes and sewers. There are potential economies from scale (integrated river basin management) and scope (water and sewerage).

[2] These are the effects of a transaction on parties who are not involved in it as such, for example, the effect of sewage treatment on public health and the aquatic environment.

- The fact that change would have implications that range widely across departmental silos, and that departments do not willingly undertake the difficult task of joining up policy. This might apply to such matters as
  - Important trade offs, for example
    - between the interests of customers now and customers in the future (all relevant departments, agencies and regulators plus the Consumer Council for Water (CCW))
    - between carbon reduction and the quality of drinking water and the aquatic environment (Defra, DECC, EA, DWI, Ofwat)
  - Policy towards diffuse sources of pollution including agriculture (different parts of Defra, EA, Ofwat, CCW, other sector regulators)
  - Road-work and congestion (Defra, BIS, CLG, DfT other infrastructure service providers, Ofwat, other sector regulators)
  - Adaptation to deal with extreme weather events (Defra, DECC, other infrastructure service providers, Ofwat, other sector regulators)
  - Planning and building regulations such as flood plain development, sustainable drainage systems (SUDS), water use (Defra, EA, CLG, Ofwat, CCW, other sector regulators)
- The numerous parties that are directly involved in policy – regulators (three sets of three across the UK), investors, water companies, the supply chain, customers and polluters, local authorities, interest groups plus the Westminster and devolved administrations and the EU.

We have looked at the approaches in England and Wales and in Scotland as part of the project and there are interesting differences. For example the Scottish Government takes a stronger lead in shaping the outputs for a given review period than in England. The process internalises the trade-offs and then hands over to the regulator to see how it is possible to set prices and deliver the outputs within the given parameters. We recognise that there are many differences between Scotland and England but the comparison was instructive.

We noted the work of the London Infrastructure Commission and the possibility it is exploring of the London Mayor, an elected representative, having a greater role in determining the needs of London infrastructure by representing the infrastructure customers. The Coalition has indicated that it will create directly elected majors in the 12 largest cities.

Some implications of all of this are

- the externalities and the long-term dimension mean that private market transactions will not give the right answers in economic welfare terms.
- the economics mean that it is difficult to pursue the standard policy of liberalising and introducing competition.
- there is a role for government policy in the sector and, if private investment is required, as in water, a need for effective and independent economic regulation and quality regulation.

2.2 Progress since privatisation

Since privatisation, the water sector and its regulators have achieved the original objectives, namely

- meeting EU directives on drinking water quality and the aquatic environment without state funding
- improving efficiency to off-set price rises to customers
- limiting the extent of political interference in the sector, inter alia, giving investors the confidence to invest.

The successes of the sector are well known and we have not repeated them here.

For the most part, progress has been orderly with few excursions although these have had extensive political and media attention. The most notable were

- fat cat executives in the mid 1990s
- the narrowly avoided consequences of drought in a part of the country where rainfall is usually plentiful
- the near insolvency of a WaSC, due to factors external to the water business, when continuity was achieved by an ownership model, ostensibly without equity
- leakage from Victorian water pipes in cities
- threats to water supply, public health and other infrastructure services from sewer systems not designed to cope with unusually heavy rainfall
- provision by some companies of misleading information to the regulator.

While each of these was serious, the regime was sufficiently resilient to deal with them within the parameters set at privatisation and the sector remains attractive to investors. These events have led, however, to an increasingly detailed approach to regulation that has had consequences, some of which are inimical to innovation and investment and this is problematic in current circumstances.

2.3 Topical issues and policy reviews

There has been little change in the nature of the sector or its regulation in the 21 years since privatisation and almost inevitably, on reflection, we see a structure that, while it is not fundamentally unsound, nonetheless needs repair.

In overall terms, policy towards the water cycle and its participants has suffered from the absence of an effective overall policy framework that focuses on long-term outputs and consequences and joins up interests across central government departments and of the regulators within the sector.

Some of the adverse consequences of this have been

- implementation of EU directives via expensive, capital and carbon intensive, end-of-pipe solutions
- slow progress on reducing carbon emissions
- slow introduction of competition and the possibly related issue of a sector that is thought of as not innovating enough
- little or no progress on the efficient allocation and use of water resources
- insufficient attention to what matters to consumers, including regional concerns[3] which has lead to a lack of legitimacy with consumers not knowing what they are paying for and why
- affordability problems for an increasing number of customers.

These are well documented. It is becoming evident that, without a change of policy, it is unlikely that the water cycle will be sustainable in the broadest sense. Instead, it is likely that

- in some areas, water supply will not be sustained without environmental cost
- the sector's carbon emissions will be on a different trend to the Government's overall targets for the economy
- necessary investment will not be financeable at reasonable cost
- affordability will be out of reach for increasing number of customers within certain groups.

Appendix B summarises the evidence for these concerns. Each of them is likely to be exacerbated by the condition of the Government's finances and demands for investment from other infrastructure and other sectors.

The previous administration had recognised the need for change. Since 2007, it initiated reviews and reports from Sir Michael Pitt[4], the Commission on Environmental Markets & Economic Performance (CEMEP)[5], the Council for Science & Technology (CST)[6], Professor Martin Cave[7], and Anna Walker[8]. At the top level, their reports have recommended[9] changes under five broad headings.

- Liberalising the water sector and promoting more competition
- Changing institutional arrangements and responsibilities
- Promoting sector efficiency, innovation and skills development
- Applying a set of principles for charging for water services that are fair and efficient
- Improving engagement and understanding among water participants, thereby giving more legitimacy to the policies adopted.

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3 Comparing unfavourably with the results under devolved administrations, even though differences within England and Wales are substantial.
4 Lessons Learned from the 2007 Floods, Sir Michael Pitt, June 2008
5 Report by the Commission on Environmental Markets and Economic Performance, November 2007
6 Improving innovation in the water industry: 21st century challenges and opportunities, Council for Science and Technology, March 2009
7 Independent Review of Competition and Innovation in Water Markets: Final report, Professor Martin Cave, April 2009
8 The Independent Review of Charging for Household Water and Sewerage Services, Anna Walker, December 2009
9 Recommendations from Pitt are now legislated in the Flood and Water Management Act, while the recommendations of the others are subject to consultation.

In addition to these reviews, others have been suggesting changes that are relevant to water and the sector's own regulators, including Ofwat[10] and the Water Industry Commission for Scotland[11] and the EA[12] are reviewing regulatory arrangements with a view to making changes in time for their next price reviews. There has been little consideration of the possibility of regulatory convergence across sectors or jurisdictions.

Many of the proposals for change remain controversial and there is no convincing package of changes constituting a way forward.

2.4 UK infrastructure considerations

The position with respect to UK infrastructure more widely adds to the need for changes to water policy. In a recent report[13], the Policy Exchange think tank concluded there was a need to spend £400 – 500 billion on UK infrastructure by 2020 in order to improve the country's competitiveness, stimulate economic growth and meet the challenges of climate change. This would represent a substantial increase in the rate of infrastructure investment and it coincides with a time when the public finances are in tatters with public expenditure, especially capital expenditure due to fall, and taxation to rise.

The coalition's programme for government contains the intention to *"examine the conclusions of the Cave and Walker Reviews, and reform the water industry to ensure more efficient use of water and the protection of poorer households"*.

Before the election, the Conservative opposition expressed its intention, if elected, to issue a water White Paper shortly after the election, but we understand that nothing will be published before the middle of 2011 at the earliest. The timing of this reappraisal is good. It is an opportunity to develop policy so that the water sector can meet the substantial environmental and societal demands and respond to increased competition for infrastructure investment at a time when the financial and economic environment is less benign than it has been for some time.

Additional points about regulation from the Coalition's programme are in the box.

We will end the culture of 'tick-box' regulation, and instead target inspections on high-risk organisations through co-regulation and improving professional standards. We will impose 'sunset clauses' on regulations and regulators to ensure that the need for each regulation is regularly reviewed. We will review the range of factors that can be considered by regulators when takeovers are proposed. We will end the so-called 'gold-plating' of EU rules, so that British businesses are not disadvantaged relative to their European competitors.

[10] Future Price Limits project, Ofwat (ongoing); Future Regulation programme, Ofwat (ongoing)
[11] Incentives and regulatory accounting project, Water Industry Commission for Scotland (internal discussion paper), March 2010
[12] The EA is considering its strategy to water generally and is expected to publish during the summer.
[13] *Delivering a 21st Century Infrastructure for Britain*, Policy Exchange, April 2010

The previous administration created Infrastructure UK as part of Treasury and it proposed to create a policy framework within which to respond to the situation of increased infrastructure investment requirements and diminished means. It is not clear what will be the position of Infrastructure UK under the coalition. Infrastructure UK's recommendations are substantially focused on public finance for infrastructure. This is unlikely to be dominant in the water sector in England and Wales although in Scotland and Northern Ireland, public funding continues.

Some relevant extracts from Infrastructure UK's strategy document[14] are in Appendix C.

Most recently the OFT has announced[15] a stock-take of ownership and control across economic infrastructure in the UK to be completed in autumn 2010. The review is in order that it can 'step back and assess how these developments [in ownership and control] might have affected competition and consumers'. It is unclear what investors reaction to this will be and whether the initiative relates to what Infrastructure UK is doing.

2.5 Current water policy

Some of those we interviewed as part of the project observed that clarity about policy towards water suffered from the absence of an overall framework within which the complexities could be positioned. Some referred to a policy vacuum and others to policy clutter. On the other hand, Defra said that *Future Water*[16] provided the policy framework.

Defra's document covers a wide range of issues and commits to numerous actions but it does not provide a coherent set of principles, objectives or criteria that would be instrumental in making the numerous choices it poses, nor does it address key trade offs or indicate how they should be made. It is not clear from *Future Water* how the actions it lists might work to result in the outcomes it has in mind, indeed it seems unlikely that they would.

The underlying rationale for change is the need for sustainable water in terms of the aquatic environment and in response to climate change and its effects. The purpose of new policy thinking is to exploit the potential for allocative and dynamic efficiency so that the investment in sustainable water does not result in unnecessary bill increases.

In our view, there is a need for clarity about what will have to be done to turn a vision of sustainable water into a new water policy. In the absence of such a picture, it is difficult to see how to move from the position we have described of policy clutter into a structure for deciding what the vision of sustainable water should mean and how to make difficult decisions.

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14 *Strategy for national infrastructure,* Infrastructure UK and HMT, March 2010
15 http://www.oft.gov.uk/news-and-updates/press/2010/49-10
16 Future Water: The Government's water strategy for England, Defra, February 2008

2.6 Conclusion on current policy

The complexity of water policy means that not only is an overall framework necessary but also that to create a useful one will be difficult.

External reviews have resulted in numerous recommendations for change, some of which would have far-reaching implications. Some of the proposals remain controversial, and in the absence of a coherent policy framework, it is difficult to see how to integrate and adopt a package to encourage rational responses from regulators, companies, investors and others with an interest in the sector thereby leading to the outcomes we seek.

In a sense, the clutter of propositions has itself become a problem: as one well-informed observer said to us

> *"With so many proposals flying around, there is a risk that the sector looks as if it doesn't know what it is doing."*

Continuing uncertainty, for example among investors and potential investors in the sector, will have undesirable and expensive consequences for the cost of the services on which we all depend and now would be a good time to initiate a better process for refining water policy.

This conclusion applies with added force if we consider the prospects for UK infrastructure investment more broadly and the need for the sector to continue to access capital at a reasonable cost.

3 Policy framework

This section considers a new policy framework under the following headings.

- What the framework should be designed to achieve
- Barriers to change
- Elements of the framework
- Conclusions.

3.1 What the framework should be designed to achieve

Government is much involved with many aspects of water and so it is important that all participants in the sector are clear about Government policy and how it might develop. Otherwise, given the cash negative future of the sector and its reliance on private investment, there is a risk to timely and efficient investment.

Achieving a sustainable water cycle will entail new roles and behaviour for all participants in the cycle. For example, the companies may need to adopt different business models, capabilities, culture and relationships with other participants. These and other changes will follow from changes in policy and regulation.

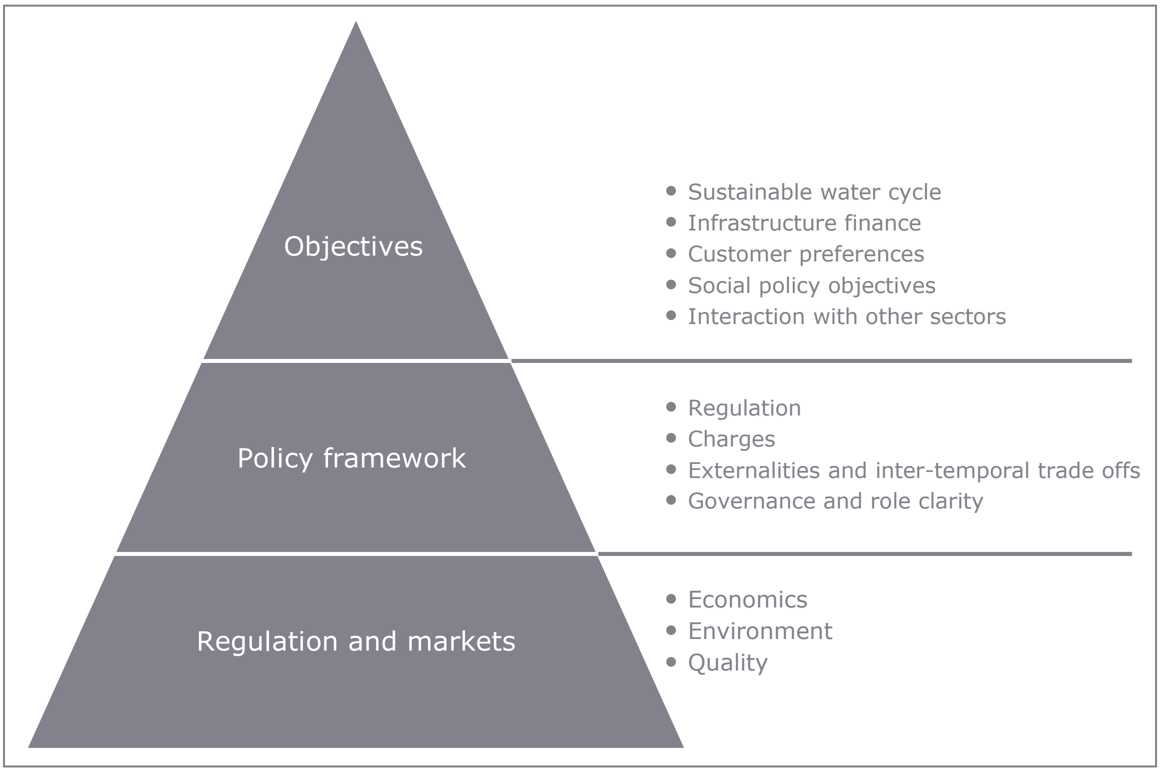
The policy framework should provide guidance on

- objectives for the water cycle and the sector over the long term
- how policy will be joined up across government (see 2.1 for some of the issues where joining up is needed and who should be involved)
- how to value the interests of customers and the environment now and in the future
- parameters and processes within which important decisions can be taken, including those for
  - developing a consistent approach to water resource allocation involving water companies, EA, Defra and Ofwat and a system that encourages the most efficient use and transfer of water within and across catchments
  - deciding how much to spend on resilience and climate change adaptation – providing a clearer means for assessing risks and reflecting the extent to which customers and society expect to see these risks mitigated
  - deciding whether it is necessary to reconsider the environmental aspirations included in EU directives, such as the WFD, and perhaps, more controversially older directives, in the light of other priorities
  - how to resolve the position of the WFD for PR14 and re-balance the contributions that fall on water customers and others

   – how to relax the constraint of affordability for specific areas or groups – tackling the question for instance of who should pay to support vulnerable customers: other customers or taxpayers
- how participants will be held to account.

Consistent with the IUK framework we believe the issues could be categorised as follows

Water policy framework



Without going into detail, the sorts of changes that the parties will face are set out below. How these changes are managed to ensure the sector is able to attract and compete for capital will be critical.

- Government's approach will need to change
  – Water policy grounded in long term vision and sustainable outcomes
  – Intervention limited to establishing policy, ministerial guidance and governance
- Regulators will have to let go of things they currently value
  – Withdrawal from some aspects of regulation
  – Different approaches to comparative competition, heavy information demands, one size fits all, etc
  – Ceding some decisions to customers
  – Removing the administrative regulation of abstraction and discharging
- At the same time they will have to take on new challenging activities
  – Become more strategic and less focused on the detail
  – Linking incentives to sustainable outcomes
  – Sustainability monitoring for the long term

- Companies too will have to change
  - Respond to changes to the regime
  - Changed relationships with customers
  - Change to the dominance of capex solutions
  - Taking ownership of issues in place of the contractor or parent / child mentality
  - Taking more risk from innovative changes
  - Competing
- Customers, or their representatives, will have to know more and play a more influential part in process.

3.2 Barriers to change

Policy and regulatory regimes, possibly for good reasons now and historically, do not change readily. In water, the barriers to change arise for a number of reasons.

- Change will entail risks and there is a degree of risk aversion among the participants in the sector.
- Change may be resisted by those on all sides who have intellectual capital tied up in the existing approach.
- The current level of detail and technicality brings with it a lack of flexibility.
- The information- and process-intensive nature of the regulatory regime may make change less attractive and in that it would reduce comparability over time.

There are questions about the ability of all the parties to welcome and make the changes and resistance is not limited to public bodies.

- Investors and companies may resist reform as adding risk, reflecting a conjunction of sunk investments and rigid financial structures.
- Nor do customers want their fundamental services put at risk. Society is dependent on the outputs of the water industry and this requires a degree of care in the maintenance of the services that may be culturally at odds with experimentation and change.
- Ofwat's record of introducing new approaches and behaving differently is mixed and there may need to be changes in culture and resources. Some have observed that Ofwat has appeared to be increasingly risk averse, keen to define outputs tightly and somewhat luke-warm on incentives that lead to out-performance. It is addressing the need for reform, however, and its Future Reform Project draws on a wide range of external advisors with experience of water and other sectors. It is also seeking to engage more widely and effectively with the sector.
- The EA has a strong attachment to administrative command and control. Senior people accept the need for more flexible approaches and the agency is considering its strategy for water. For example, if trading is to be effective in re-allocating resources it will entail the movement of water between

catchments. It too has recognised the need for change and has a modern regulation agenda.
- Regulators generally do not understand how companies respond to incentives. If unresolved, this will introduce substantial risks when it comes to engaging with companies and others to understand and define desirable outcomes and design new regulatory arrangements.

Proposals for change should have regard to how these barriers will be overcome. The water sector retains a public service ethos and has an impressive record of responding to incentives. Provided the objectives and framework are right and implemented consistently, we might expect the sector to deliver. Regulation may only ever achieve so much, however, and it is clear that the scope for change driven by trading, markets and restructuring will need to be harnessed, where possible.

3.3 Elements of the framework

In thinking about the framework, we have drawn on proposals from Infrastructure UK's national strategy that are relevant to the position in water and sought to identify the main elements of a framework for water.

3.3.1 Infrastructure UK's proposed framework

Some of Infrastructure UK's proposals (see Appendix C) are relevant to water policy and in line with the conclusions we have reached for encouraging investment in the sector.

They include

- the need for the right policy and regulatory framework that is seen as stable and effective
- the need to work with stakeholders to ensure that policy and regulatory changes are effective in enabling long term investment
- the need to identify critical dependencies between the infrastructure sectors.

Infrastructure UK has proposed a National Infrastructure Framework to take a long-term, cross-sector view of infrastructure needs. The elements that are relevant to water are[17]

- 50 year vision of the role that the UK's infrastructure should aim to develop and sustain
- specification of the outcomes required from infrastructure development and investment over the next 10 years
- priority policy interventions that will encourage the necessary investment.

[17] We have omitted that element relating to publicly funded infrastructure

It observes that aligning the layers of the framework will provide increased stability and transparency for infrastructure developers, financers, operators and consumers. Now is a good time for the water sector to consider these matters.

3.3.2 Framework for water

As we see them, the main elements are as follows.

- **The scope of the policy** – this should be broadened to include explicitly
    - all aspects of the water cycle and the linkages between them
    - linkages with other departmental portfolios and infrastructure sectors
- **Policy objectives** - a sustainable water cycle: the policy should be clear about what this means and how the measures proposed will achieve it
- **Roles** – greater clarity about the roles of policy makers and those who are responsible for implementing, including how joining up will happen.
- **Policy principles** – a set of principles for evaluating policy proposals that participants can use in their own planning and decisions. These might include the basis for appraisals of policies and investment such as that proposed by Infrastructure UK (see box 3 B in Appendix C to this paper). The charging principles proposed by Anna Walker may also be relevant. It might be helpful to start with a set of high level criteria for policy evaluation, such as Fairness, Efficiency, Simplicity, Practicality, Acceptability
- **Governance** – changes in how those who are to deliver policy are held to account for their delivery of the objectives and on behalf of customers.

3.4 Conclusions

The framework is important but so is the process whereby it is developed and adopted. This should include provision for involving the relevant parties more effectively than in the past and in particular making sure they have the information they need to contribute to the debate and development of policy. This will include better understanding of the parties' objectives, the incentives they have now and how they might respond to different incentives.

After consultation, the resultant policy should be communicated to the parties involved so they all know, within reason, what is intended, what will have to happen to give a sustainable outcome and what part they will need to play.

A new policy framework will imply changes to the regulatory regime and process and we discuss these in Section 4.

4 Changes to regulation

4.1 Background

Regulation seeks to create incentives that align the conduct of investors, companies, customers and polluters to the outcomes specified by government and to the provision of services that customers want and for which they are willing to pay.

While we believe the regime has been a substantial success since privatisation, we would not be writing this paper if we did not think change was required. Our engagement with stakeholders and work with the sponsors of this project has confirmed this, and, of course, any significant policy review will require changes to the regulatory regime.

What might the changes be? Water regulation has attracted many reviews and critiques over the years and we summarise the main concerns below.

- Top level issues
  - Regulatory policies that are not joined up within the sector and between the water sector and others (see 2.1)
  - Insufficient focus on the longer term, particularly when setting price limits
  - Increasingly complex regime which is considered costly, inimical to innovation and difficult for third parties to engage with effectively
- Efficiency and environment
  - Absence of scarcity value on water leading to poor signals for resource allocation and conservation at both wholesale and retail levels, compounded in the latter case by out of-date charging methods
  - Barriers to trading in water resources with consequences for wholesale investment decisions
  - Inefficient implementation of EU directives via expensive, capital and carbon intensive, end-of-pipe solutions
  - Little progress on the introduction of competition and the related issue of a sector that is regarded as not innovating enough
  - A special merger regime that leads to an inflexible industry structure and may limit innovation
  - Concerns that the plethora of incentives are confusing and no longer fit for purpose
- Customers
  - Affordability issues for certain groups of customers have not been dealt with in a systematic manner
  - Insufficient attention to what matters to consumers in the regions[18] which has lead to higher costs than necessary and services that may not reflect

[18] Comparing unfavourably with the results under the devolved administrations, even though regional differences within England are substantial.

local priorities – this is not conducive to legitimacy with consumers, which is already patchy reflecting suspicions of privatised entities providing public services.

Proposals for changes to meet some or all of these points have been made by the recent independent external reviews and some of these are under consideration by the regulators and government.

The question of the balance between competition and regulation is important and a decision on the direction of travel would be helpful in ending uncertainty and enabling preparatory work to begin. Even if this happened, there is unlikely to be much progress on competition by 2014. In the short term, therefore, changes to regulation will be the main driver of improved industry performance. The improvements that competition might bring could be substantial, however, and so it is important to begin work on the changes that will overcome the barriers and open up this potential as soon as possible.

As we have mentioned above, investors tend towards scepticism about the benefits of competition in the sector, mainly because they do not think there has been a convincing rationale, but they are much clearer about the possibility of its costs in the short term. The most important element of the preparatory work is to provide a clearer rationale for introducing more trading and markets, including how to implement the changes.

In our view, a critical issue is how policy makers in government and regulators should involve the relevant parties in considering, selecting, designing and introducing changes – both regulatory and market-related - to ensure that they are effective and do not adversely affect the ability to raise finance, particularly given the more competitive funding environment.

4.2 Priorities

Policy direction on key issues has not yet been set and we do not intend to pre-empt the collaborative work that we believe is needed on policy and regulation.

Nonetheless, some of the changes that regulators can and should prioritise have been well explored in the review reports and, in our view, there will be merit in pursuing some of these to various extents before or in parallel with the policy development.

Ofwat's current programme of work, advised by its 'expert panel' and Board, is already undertaking useful 'bottom up' preparatory work in some of these areas and the EA is working on its modern regulation agenda, considering abstraction trading and pricing and more flexible environmental regulation. We believe this work will have great value, providing it can take its place within a prioritised and coherent policy for water.

For now, it is appropriate to set out in this paper Indepen's current thinking on what the priorities for regulatory change should be, as informed by our engagement with stakeholders during this project and further consideration of the issues.

The list includes matters where there is broad agreement in support of change, for example rationalising regulatory incentives. However markets develop, there will remain a regulated monopoly pipes business and there is wide agreement that some aspects of incentives and regulatory processes need attention. The solutions are not agreed and we support further work on these now.

In addition, there are topics where we need more information about whether, and if so how, the changes might work. Given the challenges of infrastructure, climate and population change and affordability, encouraging innovation and efficiency is a high value activity for regulators. The prize from a small increase in the rate of innovation would be great and some would argue that competition would be the best way of winning it. Evidently, this is controversial possibly due to a belief that the effect on the cost of finance might outweigh such gains or that the system will become too complex.

In our view, it is worth continuing to explore the potential. Hard evidence will not be available until we actually adopt the policy but a valid source of information on how it might work could come from a process of engagement with the companies, including experimentation, simulation and testing. A process such as this would support better decisions on the scope and speed of with which competition could stimulate innovation.

The following list of possible changes does not make up the whole of the regulatory reform agenda but contains plenty to be getting on with. Where possible, the changes should take effect in PR14.

Markets
Given that the gains from effective markets could be considerable, there should be a concerted effort to explore how to make them work in water. This will involve learning from successes elsewhere and finding ways of avoiding the mistakes, which tend to result from political interventions and inappropriate market design, rather than a flawed concept.

Cave's step-by-step approach seems right and the first step is to develop a work-plan and timetable showing how and when the work will progress, how and when the parties will engage and how and when decisions will be made.

Elements of this will be as follows.

- Abstraction charges – move to economic charges to drive better allocation of resources. The issue of what use to make of additional "tax" revenues from such a change is one for HMT. Cave's proposal to recycle the revenues to vulnerable customers is one possibility.

- Discharge charges – to be considered in parallel with abstraction and accompanied by efforts to make the consenting regime more flexible.
- Abstraction trading - more information is needed here and this could come from practical simulations of different models which should include ways of overcoming the existing constraints to trade for both acquirer and vendor. It will be important to have a clear definition of the property rights associated with abstraction.
- Upstream competition (i.e. competition in treatment and trading of treated water) - this would be dependent on a revised access pricing approach. Cave proposed economic pricing but there are significant practicalities to be resolved including how to treat fairly the legacy RCV. Upstream competition is a longer term prospect.
- Retail competition – the general view is that this will proceed with competition for non-domestic customers. Progress should take on board lessons from Scotland and from the energy sector. If the starting point was functional separation of the whole retail function, there could then be an appraisal of the pros and cons of moving to full legal separation. Lessons from BTOpenreach and the operation of the undertaking between BT and Ofcom will be relevant here. A risk of separating the whole retail function is that regulators would be less willing to remove regulation.

Cave recommended that the special water merger regime should be replaced by bringing the sector into line with other sectors of the economy. We support this and the implication that Ofwat will have to consider new ways of using comparisons in its regulation.

Regulation

Information

Regulatory information should take its lead from the information that an efficient company would use to run its business in the absence of regulation. The burden of proof for additional information would then rest with the regulator who would have to provide justification in terms of duties and outcomes and a counterfactual.

An overriding aim should be to simplify the existing information requirement by focusing on outcomes and potentially on outputs rather than the existing system which does not seem targeted, confuses the parties, gives a false sense of security to regulators and is costly for all. The change would not lead to weaker but to more targeted and effective regulation focusing on specific issues and companies. Changes to information requirements should cover both price setting and enforcement.

Better information about the value chain would inform the design of incentives and market reforms. This information would not be limited to that arising from accounting separation. Given the potential for new markets in water, there will be a need for market information for participants.

Incentives
Ofwat is reviewing its incentive mechanisms. The criteria for incentive design should include

- focus on policy outcomes (subject to revision of these)
- set at a high level and allowing companies the flexibility to innovate and respond to changed circumstances
- compatible and consistent with the incentives imposed by other regulators
- taking account of the wider financial and other factors that influence companies.

This implies moving to a collaborative and experimental approach to incentive design and implementation.

Specific issues arising from recent reviews, include

- CIS – wide agreement that this is a good idea but needs to be re-designed with a better process
- Balancing capex/opex incentives – this is on Ofwat's agenda and it is looking to learn from Ofgem's experience
- Targeted incentives – there are many technical issues about how these should be designed to achieve high level outcomes, such as innovation for instance by building the capacity to innovate, and avoid unintended consequences
- Tariff design and charging to encourage water conservation.
- Specific incentives and complementary measures to encourage innovation – this is the subject of a current industry research project.

Involvement
There is support for enhanced consumer involvement in price reviews and other aspects of regulation. The rationale is to complement the individual choice provided by retail competition with a degree of collective choice in the regulated elements.

Work is proceeding on

- what should be the role of the parties to a 'settlement'
- what role Ofwat and the retailers would play in the process
- how the process of consumer engagement for a price review should relate to the existing 'quadripartite process'
- how both are linked into the RBMP process to determine the allocation of WFD costs.

These factors will be important in ensuring that, in each region, the balance of service and environmental outputs that customers pay for is satisfactory to them and meets public policy objectives.

The issue of whether we should expect tariffs to deal with affordability is one for Government in the first instance. If Government is unwilling to resolve affordability via the benefits system, then it will be for companies to come forward with proposals supported by their customers. Ofwat will need a set of principles against which to judge the proposals.

5 Process of policy development and implementation

The previous sections discussed our argument for changes in water policy and water regulation. These changes will be more effective if the process whereby they are designed includes proper consideration of how they will be implemented. Policy, like strategy, usually fails in the implementation and poor implementation leads to unintended consequences.

It is important that the issues of reform are considered together rather than in a piecemeal fashion and the parties have effective processes under which changes can be decided and developed. Such changes might not come naturally and they will entail significant reworking of the way things are done as well as what is done.

The approach to policy development that we are proposing involves enhanced engagement. Given the complexity of the sector and its ramifications, which is in a sense the reason for more engagement, it will not be a linear process but dependent on linkages and feedback to inform and maintain the process of change.

Price reviews take up about a half of the conventional five year price limit period and seem to restrict the opportunity to develop and implement policy and other changes which, if they are to be effective, will require a period of engagement, debate and consultation in their design. The key is to decide where changes are needed and propose a process, including experimentation, for designing future developments in a way that is not dominated by dogma or solutions looking for problems and that will deliver a sustainable result. If the results are to be legitimate with participants in the water cycle and with stakeholders, they must be the result of effective engagement and proper testing for implementation.

We believe that the companies, given their position in the water cycle, have an important contribution to make to how the changes are designed and implemented. This is not at the expense of the roles and contributions of other parties, particularly customers, who ultimately pay, and investors who fund the crucial investment.

If these thoughts find favour, what needs to change and why?

This should be the subject of debate. The result of the new approach would be outcomes that were

- derived via a good process and clearly communicated
- legitimate in that they are understood and acknowledged by the parties as valid areas for government policy
- based on resolution of apparent conflicts, for example between regulators

- based on the involvement of the right people - stakeholders and implementers – with the right information to ensure goal congruence and avoid unintended consequences.

In the context of water policy and its reform, the objective would be to

- get buy in from the participants
- promote a better understanding of all parties' objectives
- determine what information they require to contribute to the debate
- understand existing incentives
- understand how they might respond to different ones
- consider how things might go wrong.

The debate would deploy a range of techniques and approaches so that there would be the right degree of formality, openness, etc, dependent on nature of the issues and stage of development. An example of such a process is the National Conversation promoted by the Tenant Services Authority to inform the development of its new framework for regulating social housing in the UK.

6 Conclusions and recommendations

6.1 Conclusions

Policy

- Water policy has succeeded in meeting the objectives set at the time of privatisation. The context is becoming more complex with new challenges that were not anticipated in the late 1980s when policy last changed substantially and the water authorities were privatised.
- There is a need to update water policy. The way in which the sector and its regulation have developed means that the sector is unlikely to meet the objectives now expected on unchanged policies. There is a now a need to revisit objectives, policies and roles so that they align with the desired outcome.
- National infrastructure considerations strengthen this conclusion.

Regulation

- Any new water policy will have implications for regulation and in particular for the extent of structural changes and the use of markets. The sectors' regulators are considering how new approaches might work and what it would take to implement them.
- Whatever the outcome of decisions on regulation and markets, it is clear that the sector has a continued requirement to attract external finance and that this is in the interests of customers. It is critical therefore that investor concerns are addressed and that the political and regulatory environment of the sector is seen to be competitive.
- However widely markets apply in future, there will still be monopoly networks to regulate and there are aspects of regulation as applied in PR09 that need attention. In some cases, the need for attention is not contentious, although what should be done may be more so. The new approaches should be developed for implementation in PR14.

Process of policy development and implementation

- There is a need for policy makers, regulators, investors, companies and customers (and their representatives) to adopt new ways of working if the incentives are to be aligned to deliver a sustainable outcome.
- It would be helpful to the parties if the objectives and nature of the work that is going on in the regulators were more clearly communicated with outputs and timetables explained.
- It would be even more helpful if the processes the regulators adopted had more input from the companies and other parties.

6.2 Recommendations

The key recommendations are as follows.

- The Government should update water policy including changes to its scope, policy objectives, roles of the parties, policy principles and governance arrangements. This should be informed by dialogue with the parties in the sector and should build on material already available[19] to provide an effective foundation for change.
- Regulators should respond to the new policy framework and seek joint working with the companies and other parties to shape regulatory reforms that balance the interests of investors and customers. Given the complexity of the situation, many of those to whom we spoke would value a route map with actions for stakeholders to progress and timing and review points on the voyage of discovery. Reforms on price controls should aim to be implemented by PR14.
- Companies should embrace the opportunities that present themselves to create a more sustainable water sector.

This paper discusses potentially significant changes in the sector, which raises capability and cultural issues. The main parties involved from the policy side will need to ensure that they have the resources and skills they need to make these changes happen.

Action is needed soon even though the problems are not all manifest as yet. This is because much of the industry's investment is in long-life assets and we need to ensure that the investment programme at the next price review is appropriate to meet long term needs. Reforms will have to be at an advanced stage within a year or so if there is to be time for any legislation needed to be effective in the next regulatory cycle. Otherwise it would be another five years before changes can start.

[19] For example: Defra's Future Water, the companies Strategic Direction Statements (SDSs), Ofwat and EA's strategy and scenario work

Appendix A: List of interviewees

Martin Hurst, DEFRA
Ian Anthony, BIS
Bob Irvine, Scottish Government
The then opposition - Nick Herbert MP, Martin Tunstall; John Penrose MP
Cathyrn Ross, OFWAT
Ian Barker; Ronan Palmer, Environment Agency (EA)
Professor Jenni Colbourne, Drinking Water Inspectorate
Alan Sutherland, Water Industry Commission for Scotland (WICS)
Colin Bayes Scottish Environment Protection Agency (SEPA)
Colin McLaren, Drinking Water Quality Regulator for Scotland (DWQR)
Hannah Nixon, OFGEM
Anna Walker; Bill Emery, Office of Rail Regulation
Nick Fincham, Civil Aviation Authority
Chris Bolt, Office of the PPP Arbiter
Chris Bright, Competition Commission
Tony Smith, Consumer Council for Water (CCW)
Tim Collins and Greg Smith, Natural England
Jon Stern, Centre for Competition and Regulatory Policy, City University
Martin Cave, Centre for Management under Regulation, Warwick BS
Graham Mather, European Policy Forum
Russell Ward, Independent Water Networks Limited (IWNL)
David Seymoor, Scottish and Southern Energy
Alistair Moseley, WSP Group
Ian Noble, MWH
Jaron Yuen, UBS
Martin Stanley, Macquarie
Peter Dooley, RBS
Orlando Finzi, M&G
Graham Taylor, Legal & General
Callum Mitchell-Thompson, JP Morgan

Appendix B: Summary of evidence on aspects of sustainability

In this Appendix, we present a brief summary of evidence on the trends in the aspects of sustainability referred to in Section 2.3 of the paper.

In some areas, water supply will not be sustained without environmental cost

The EA's 2008 publication *Water resources in England and Wales*[20] and 2009 publication of their water resource strategy[21] provide evidence to suggest that water supply is unsustainable without environmental cost.

Currently, the situation is one of high levels of water stress and low ground and surface water available for abstraction, particularly in the South East of England. Looking ahead, increased population and associated development and the impact of climate change could have a major impact on water resources. Although forecast changes in climate and population are by no means concentrated in the South East of England, the future risk is most prominent here. Climate change is likely to be the biggest challenge to be overcome if enough water is to be provided for people and the environment.

The sector's carbon emissions will be on a different trend to the Government's overall targets for the economy

Numerous parties have commented on the sector's carbon emissions not being aligned to the required trend set by the Government's targets for the economy as a whole.

The CST highlights the tensions between the need to deliver clean water at lowest cost on the one hand and environmental imperatives on the other[22]. It states that current technologies are unlikely to allow the sector to contribute to meeting the UK's carbon reduction targets. It concludes that if 2050 targets are to be met the sector requires a "paradigm shift" to reduce its carbon footprint.

The EA notes that environmental legislation is resulting in an increase in the sector's carbon emissions[23]. Without intervention, the WFD is likely to increase the sector's carbon dioxide emissions by over 110,000 tonnes per year[24].

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20 Water Resources in England and Wales – current state and future pressures, The Environment Agency, December 2008

21 Water for people and the environment – water resource strategy for England and Wales, The Environment Agency, March 2009

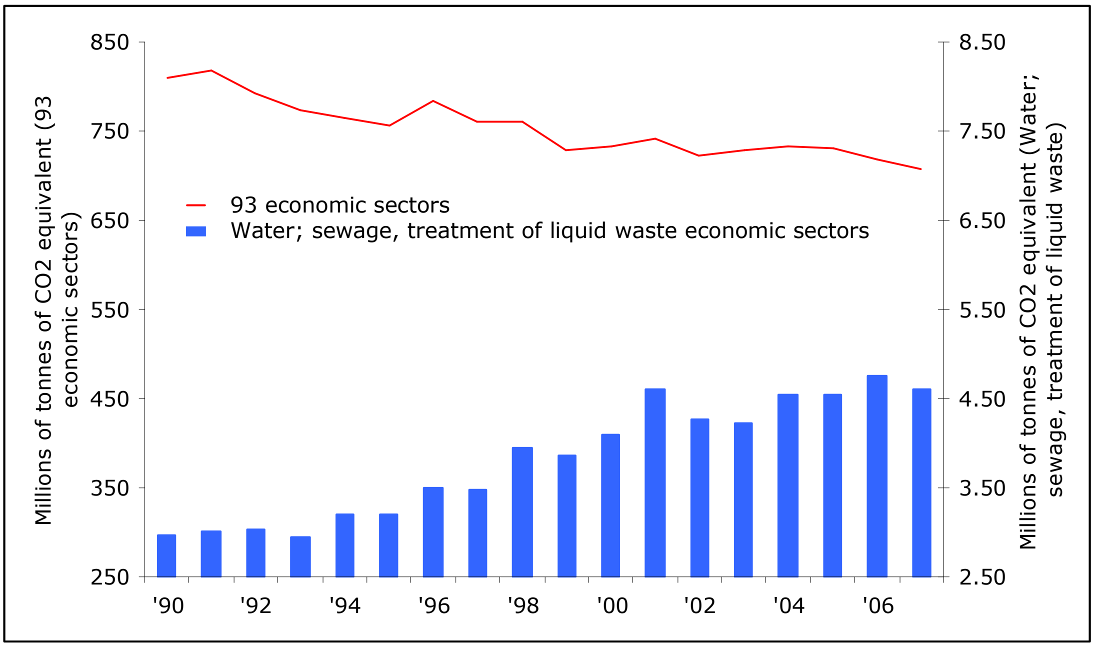
22 Improving innovation in the water industry: 21st century challenges and opportunities, Council for Science & Technology, March 2009

23 Briefing Note - The greenhouse gas implications of future water resources Options, The Environment Agency http://www.grdp.org/static/documents/Research/The_greenhouse_gas_implications_of_future_water_resources_options_-_SUMMARY.pdf

24 Transforming wastewater treatment to reduce carbon emissions, The Environment Agency, December 2009

Defra state that there is a compelling case for action on carbon emissions in the water industry. The risk of rising emissions results from increased water demand, population growth, new developments, lifestyle changes and increased environmental quality standards[25].

Historic data reveals a trend in the sector's emissions that diverges form those of the economy as a whole and from Government targets. 93 economic sectors have decreased their carbon equivalent emissions by an average of 13% in the period 1990 to 2007. In the same period, the water and sewage sectors increased emissions by 55%.



Source: Office of National Statistics, Total Greenhouse Gas Emissions by 93 Economic Sectors 1990 to 2007

Necessary investment will not be financeable at reasonable cost
Indepen's March 2009 Investor Survey for Water UK[26] found an increasing concern about the sector's financeability. Almost two thirds of investors had concerns for the long term funding of the sector, up from one third in 2008. Sector specific issues included

- the regulatory environment not helping to reduce risks
- the sector's substantial need for external finance
- favourable existing debt structures being irreplaceable
- holding companies finding difficulty in accessing debt
- junior debt being particularly expensive
- the possibility of demand exceeding the market's ability to provide funding.

[25] Future Water - The Government's water strategy for England, Defra, February 2008
[26] 2009 Investor Survey – a report by Indepen for Water UK, Indepen, March 2009

Affordability for some groups of customers will deteriorate

Walker makes the case that affordability in the water sector is a growing issue for some people[27]. The costs of supplying water and sewerage services are likely to continue to rise as a result of four factors

- population growth
- the pressure of climate change
- the increasing need to replace outdated infrastructure
- high environmental standards.

As a result, capital expenditure is likely to continue at a similar rate in the future.

Walker demonstrates that bad debt in the sector is high compared to other utilities (in part due to the 1999 ban on disconnections), and growing. Issues of affordability affect the following groups in particular

- customers with a low income and high essential water use for medical reasons
- customers with a low income, living in a high-cost area
- customers with a low income and children
- customers with a low income more generally.

The Consumer Council for Water states that one in six customers tells them that their water bills are not affordable, and that this is a growing problem[28]. Work commissioned for the CCW also argues that water poverty is a growing issue and that an analysis of average affordability masks the affordability problem of specific groups[29].

[27] The Independent Review of Charging for Household Water and Sewerage Services - Final Report, Anna Walker, December 2009
[28] Affordability and social tariffs briefing, Consumer Council for Water, http://www.ccwater.org.uk/upload/doc/ccwater_social_tariffs_briefing_final_01_02_10.doc
[29] Water Affordability in England and Wales, A report prepared for CCWater, Snell and Bradshaw, 2009

Appendix C: Extracts from Infrastructure UK's strategy document

Points from the strategy relevant to water

Paragraphs 1.26 and 1.27

Taking these different perspectives together, the demand for investment in economic infrastructure in the UK is expected to be in the range £40-50 billion per annum until 2030 and possibly beyond. This is significantly above historical levels.

The need to invest in infrastructure is not unique to the UK and presents a challenge to most economies across the world. There is therefore likely to be increasing competition for resources, skills and capital as countries around the world accelerate investment in infrastructure to meet new challenges in a changing world.

Paragraph 2.17

The most important means of encouraging investment is having the right regulatory and policy framework in place for infrastructure sectors. It is also essential that policy be seen as stable and effective.

Paragraph 2.24

It is essential that the link between policy reform and enabling long-term investment, including the possibility of direct financing interventions, is maintained. Accordingly, Infrastructure UK … will work with stakeholders in ensuring that policy and regulatory changes are effective in enabling long-term investment.

Paragraph 3.21

Infrastructure UK will lead a review, working with the infrastructure industry, regulators, the Cabinet Office, other government departments and CPNI to identify the critical interdependencies that impact on infrastructure investment needs and will publish an action plan setting out the response to them by spring 2011.

Paragraphs 3.11 to 3.14 - National Infrastructure Framework - expected contents

- a vision of the qualities and role that the UK's infrastructure should aim to develop and sustain over the next 50 years;
- the outcomes the UK will seek through both public and private sector infrastructure development and investment over the next 10 years;
- a portfolio of potential public and private infrastructure investment that will deliver those outcomes; and
- the priority policy interventions for government that will take forward the necessary development of and investment in that portfolio.

Infrastructure UK will develop the National Infrastructure Framework progressively, working with stakeholders across the public and private sectors.
Aligning the different layers of the framework will provide increased stability and transparency for infrastructure developers, financers, operators and consumers.

Box 3.B – Appraisal of infrastructure policies and projects

Infrastructure projects or policies should be considered and appraised in terms of:

- their long-term costs and benefits, including their expected effect on infrastructure outcomes for the next 10 years and their consistency with the 50 year vision, in particular their contribution to the transition to a low-carbon economy;
- their choice of funding and finance models and their efficiency and effectiveness compared with alternative models;
- the options for demand management and more effective utilisation of existing or renewed assets, as alternatives to major investment in new assets;
- the potential synergies and interdependencies with other infrastructure;
- their impact on the overall resilience of infrastructure networks; and
- any significant impact on the supply chain, particularly innovation and new business opportunities.

Box 3.C - Longer-term certainty regarding infrastructure spending plans

- What is the right balance between certainty and flexibility to direct spending to the priorities of the present and the future?
- Are there examples where the time horizon of existing spending plans has hindered efficient and effective delivery of infrastructure or the UK's ability to attract investment?
- Does continued commitment to renewal and maintenance of existing networks need to be treated differently from investment in major new infrastructure?
- What has been the experience in areas where longer-term certainty has been provided through budgetary commitments, contracts or regulation?
- In which specific areas would longer-term funding certainty have the most impact, and what might the benefits be?
- Which types of certainty are most appropriate for specific areas of public infrastructure spending – for example, longer budgets, contractual structures or regulatory frameworks?