Severn Trent Water

Draft Business Plan

Part A – Company Strategy

August 2008

Foreword

Tony Wray, Chief Executive, Severn Trent Plc

Tony Wray
Chief Executive
Severn Trent Plc

Last December we published our Strategic Direction Statement setting out the 25-year vision for Severn Trent Water. This Draft Plan sets out the steps we will take over the next five years in working towards delivering the eight Key Strategic Intentions (KSIs) we set out in the Strategic Direction Statement.

The Strategic Direction Statement set out the complex and demanding challenges we face over the next two and a half decades. These challenges have, however, already begun. For example, in the summer of 2007 we saw the impact of climate change in the unprecedented flooding in the Midlands and Gloucestershire. This highlights the importance of some of the proposals we have put forward in this Draft Business Plan, in particular in terms of the resilience of our network where our plans are based on a detailed review of risks.

This Draft Business Plan has been put together in a holistic and balanced way. It has been produced directly from a rolling business planning process we have implemented, whereby each year we produce a five-year forward looking plan. For this year we produced a seven year plan covering the whole of the next Asset Management Plan (AMP) period. This plan has been developed from that process and has not therefore been produced as a "special event" regulatory submission.

In putting the Draft Business Plan together we wanted to know what our customers and stakeholders considered to be important and we undertook extensive market research early on to determine customers' priorities and willingness to pay. We believe we have put customers "at the heart" of our plan, by delivering improvements whilst keeping prices as low as possible. We have applied the appropriate risk-based framework (i.e. applying the Common Framework for capital maintenance).

The outcomes of our plan are consistent with our Strategic Direction Statement and deliver improvements which all stakeholders want, while ensuring that our plans are affordable. This includes:

- **broadly flat bills** – average household bills will rise by 1% by the end of the period (KSI 5 – Having the lowest possible charges)
- **improved services** – e.g. on network resilience (KSI 1 – Providing a continuous supply of quality water) and a reduction in sewer flooding (KSI 2 – Dealing effectively with waste water)
- **environmental improvements** – delivered through improving sewage treatment (KSI 2 – Dealing effectively with waste water)

- **increased spending on assets** to ensure that the environmental and drinking water quality improvements achieved since privatisation are maintained (KSI 1 – Providing a continuous supply of quality water and KSI 2 – Dealing effectively with waste water)
- **challenging efficiency targets** are proposed (KSI 5 – Having the lowest possible charges)
- **a financeable plan** which strikes the right balance in keeping prices low for the long-term and maintaining investor confidence (KSI 7 – Maintaining investor confidence)
- **sustainable solutions** including promotion of catchment management, sustainable drainage solutions, and meeting tighter standards (KSI 4 – Minimising our carbon footprint).

The plan reflects the views of the wider stakeholder groups we have consulted during its preparation. We have engaged with the Consumer Council for Water, the Environment Agency, the Drinking Water Inspectorate and Natural England through the established quadripartite process sharing the results and outcomes of our Plan.

This has resulted in a broad support for our Plan with, for example:

- Consumer Council for Water supporting our overall proposals for broadly flat bills with the outlined improvements to customer services
- the Environment Agency working with us to develop the environmental programme – we will continue to review the programme with them to ensure that improvements are only included if justified by the environmental benefits achieved.

We believe therefore that the outcomes are broadly supported by our key stakeholders.

The Final Business Plan we submit to Ofwat in April 2009 will be a refinement from the draft presented here. Refinements include carrying out further market research on customers' priorities to ensure that we have fully captured what they consider to be important as well as continuing to engage with our key stakeholders. There is also work to do on tariffs for vulnerable customers and we need to refine our maintenance expenditure plans further.

There are a number of key assumptions in the Draft Business Plan that are currently uncertain and potentially volatile:

- those affecting operating costs, e.g.
  - energy and other commodity prices
  - the costs arising from legal changes (e.g. the Traffic Management Act)
- those affecting financing, e.g. interest rates – the cost of borrowing, availability and source of funds
- those on tax, e.g. the evaluation and implementation experience of new tax laws affecting water companies – such as the abolition of Industrial Building Allowances.

We will monitor movements in these key assumptions and adapt our Final Business Plan accordingly. We will, however, retain sight of the key objectives of our plan and ensure that customers remain at the heart of our long-term plans.

We now look forward to a constructive and open dialogue with Ofwat and other stakeholders on our plan. We are supportive of Ofwat's increased emphasis on long-term planning, as evidenced by the requirement for each company to produce a Strategic Direction Statement, and balancing costs and benefits. Our plan makes progress on improving services which customers think are worthwhile, keeps the level of bills broadly stable and delivers environmental improvements. This is possible as a result of the very challenging efficiency targets which we have set. As we work towards our Final Business Plan, in consultation with Ofwat and other stakeholders, it is essential that the overall balance of the plan is maintained.

Tony Wray – Chief Executive

Executive Summary

Our approach to the Draft Business Plan

In December 2007 we published our Strategic Direction Statement, which set out our approach to dealing with the challenges we face for the next twenty-five years. Our aim is to be the best water and waste services company, achieving the highest customer service and environmental standards while at the same time offering our customers the lowest possible prices.

This Draft Business Plan sets out how we will make progress over the next five years (2010/11 to 2014/15) in achieving our long-term objectives, and the price limits needed to enable these plans to be delivered. Following feedback from Ofwat and other stakeholders, we will be producing our Final Business Plan in April 2009.

Our planning process was initiated in 2006 with the objective of building an integrated planning framework within which a long-term strategy could be developed, and linked to medium-term operating plans and annual budgets through a rolling process. This approach provides consistency between our internal plans and ensures continuity to our Periodic Review submissions.

We have based our plan on consumer priorities and have taken into account the views of other stakeholders. It is underpinned by a sustainable financing plan. We will make progress in improving services and continue to meet the challenge of climate change – adapting our operations and reducing our carbon footprint. The flooding incident in Gloucestershire in 2007 highlighted that we need to take extra measures to ensure that we meet customer needs for reliable supply. Our plans are directed towards sustainable solutions, contributing to meeting the government's sustainability objectives. Our programme of service improvements is determined by cost-benefit analysis, comparing the costs of improvements with the benefits to customers.

Ensuring that maintenance is sufficient to sustain the service and environmental improvements made since privatisation is a key part of our plan. We have invested over £10 billion since 1990 and some of the assets installed in the early 1990s are now reaching the end of their useful lives. Our capital maintenance programme is largely based on a forward-looking approach to determine the appropriate level of investment, modelling the future rate of asset deterioration and the resulting risk of impact on service, in line with the UKWIR Capital Maintenance Planning Common Framework.

Our plan is based upon delivering against the eight Key Strategic Intentions set out in our Strategic Direction Statement, which reflect our aims for service, the environment and charges. These KSIs reflect what our customers tell us they consider important and the views of wider stakeholder groups. Our proposals under each of these KSIs are summarised below.

KSI 1 – Providing a continuous supply of quality water

Ensuring a reliable, safe water supply is the top priority for our customers. Our plans are designed to ensure that we maintain our current high quality standards and increase reliability of supplies.

The key elements of our plan are:

- increasing the resilience of our assets to reduce the risk of supply failures
- reducing interruptions to supply
- increasing maintenance expenditure on water treatment works to ensure that we maintain high standards; significant investment in water treatment improvements were made between 1990/91 and 1994/95, and many of these assets are coming towards the end of their design life
- balancing supply and demand through:
  - reducing leakage, principally through increased detection
  - accelerating the installation of customer metering
  - promoting water efficiency through the use of more water-efficient equipment, and education programmes
  - making best use of our existing water sources through supply integration projects
- meeting water quality standards through a programme to increase treatment where water quality is deteriorating, and encouraging changes in agricultural practice to improve water quality entering treatment works.

Our expenditure proposals are shown in the table below. The figures in the table, and in all following tables, are at 2007/08 prices. Capex (capital expenditure) is the total spend for the five years; opex (operating costs) is the annual additional spend by 2014/15 over current levels.

Expenditure – Providing a continuous supply of quality water		
Area of expenditure	**Capex (£m)**	**Opex (£m/pa)**
Ensuring a continuous supply	717	2.6
Providing safe, acceptable drinking water	362	3.9
Having enough water available to meet demand	206	5.4
Resolving low pressure problems	39	1.5
Total – Providing a continuous supply of quality water	**1,324**	**13.4**

KSI 2 – Dealing effectively with waste water

Our proposals are based on making improvements which customers support, in particular reducing sewer flooding, and ensuring that we have a sustainable impact on the environment. As requested by Ofwat, we have not included the costs of adopting private sewers as the timing and scale of asset adoption is uncertain.

The key elements of our plan are:

- action to reduce the number of sewer flooding incidents
- increasing maintenance at sewage treatment works; significant investment in sewage treatment improvements were made between 1990/91 and 1994/95, and many of these assets are coming towards the end of their design life
- meeting new standards for sewage treatment – but we anticipate that further discussion and evaluation will result in reductions in requirements for the Final Business Plan
- increasing sewer replacement and a programme of measures to achieve a further reduction in pollution
- a programme of measures to reduce odour problems
- developing new technology for use of sewage sludge as a renewable energy source
- working with other stakeholders to develop integrated flooding solutions.

Our expenditure proposals are shown in the table below.

Expenditure – Dealing effectively with waste water		
Area of expenditure	**Capex (£m)**	**Opex (£m/pa)**
Dealing with sewer flooding	310	0.7
Meeting new sewage treatment standards	295	7.4
Maintaining the network	849	3.8
Controlling pollution	96	1.9
Dealing with problems of odour from sewage treatment works	10	0.1
Dealing with sewage sludge sustainably	27	-0.4
Total – Dealing effectively with waste water	**1,587**	**13.5**

KSI 3 – Responding to customers' needs

Our customers tell us that, in addition to providing the highest levels of water and waste services, they expect to see higher standards of service in relation to customer contact and billing issues.

The key elements of our plan are:

- improving our quality and speed of response when customers contact us
- making improvements in the way in which we run our water mains and sewer networks and billing systems to minimise the need for customers to contact us due to service failures

- increasing the number of operational problems resolved at the first contact or visit to customers' properties
- increasing the range of channels for contact to meet customer needs.

There is no expenditure included for achieving higher standards – we expect improvements in our processes to enable us to provide better customer service and increase efficiency.

KSI 4 – Minimising our carbon footprint

There is now widespread acceptance of the need to reduce carbon emissions. The Climate Change Bill incorporates targets to reduce carbon dioxide emissions by 26-32% by 2020, and by 60% by 2050. The water industry, as the industry with the fifth highest electricity use, will be expected to make a contribution to these targets and enter into Carbon Reduction Commitments.

The key elements of our plan to reduce our carbon footprint are:

- additional electricity generation projects, in particular using sewage sludge as a renewable energy source, to maintain our leadership position in the water sector
- measures to achieve significant efficiencies in energy use
- taking into account carbon impacts in assessing the case for further quality and environmental improvements.

Our expenditure proposals are shown in the table below (energy cost savings are included in KSI 5).

Expenditure – minimising our carbon footprint		
Area of expenditure	**Capex (£m)**	**Opex (£m/pa)**
Renewable energy generation	15	0.0

KSI 5 – Lowest possible charges

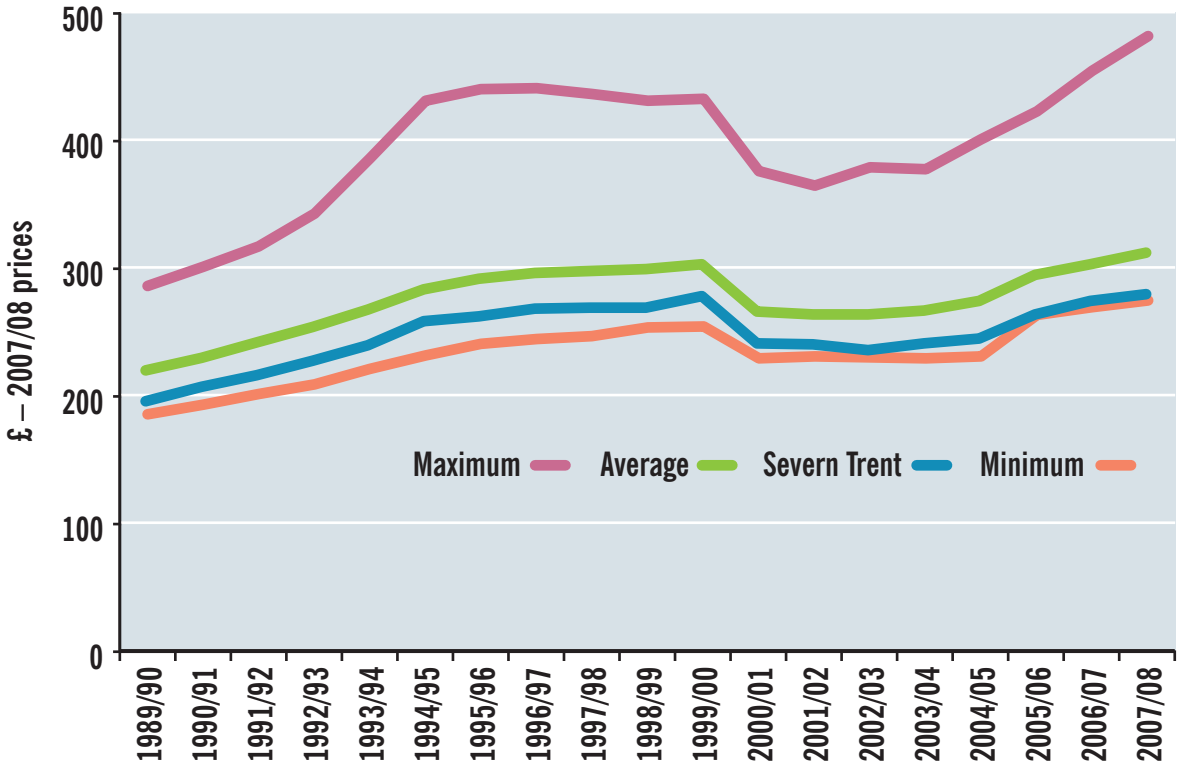
Since privatisation in 1989, bills for Severn Trent Water customers have been amongst the lowest in the country. It is our objective to retain this position, while maintaining high standards, and making improvements where supported by customers.

The key elements of our plan are:

- limiting bill increases by ensuring improvements are supported by customers
- challenging targets for making continued improvements in efficiency in both capital expenditure and operating costs, enabling us to keep bills down. Examples include our accommodation and IT strategies
- identifying cost-effective solutions to new requirements – in 44 cases we have identified that new sewage treatment standards can be met without additional investment

- ensuring proposed service improvements take account of willingness to pay amongst low-income groups
- continuing to increase metering – rateable values are now 30 years old and becoming an increasingly outdated basis for charging unmeasured customers
- developing payment options and continue to support our charitable trust which provides help to those in debt – to help the most needy and least able to pay
- making sure that those who can pay but won't are pursued effectively.

Comparison of household bills in England and Wales



Expenditure – lowest possible charges		
Area of expenditure	Capex (£m)	Opex (£m/pa)
IT	119	
Accommodation strategy	96	
Efficiency initiatives (Water)	15	-69.4
Efficiency initiatives (Waste Water)	23	
Total – initiatives to promote lowest possible charges	**253**	

KSI 6 – Having the right skills to deliver

If we are to deliver service improvements and increase efficiency, we need to have the right people and resources available to us. Key aspects of this are attracting and retaining the right skills among our employees and suppliers. In this KSI we also include our responsibilities to the local community – we play an important role in the provision of a vital public service to the communities we serve.

The key elements of our plan are:

- building a talented, diverse workforce with the right skills, experience and behaviours
- ensuring that we retain the right skills, particularly when we consolidate our central Midlands offices
- creating an environment where people want to work and can perform at their best, including giving a very high priority to health and safety
- championing skills development in the region and engaging with schools and colleges
- promoting the economy and the environment of the region for the benefit of our communities and for Severn Trent Water.

Expenditure – having the right skills to deliver		
Area of expenditure	**Capex (£m)**	**Opex (£m/pa)**
Conservation, access and recreation	13	0.0
Total – having the right skills to deliver	**13**	**0.0**

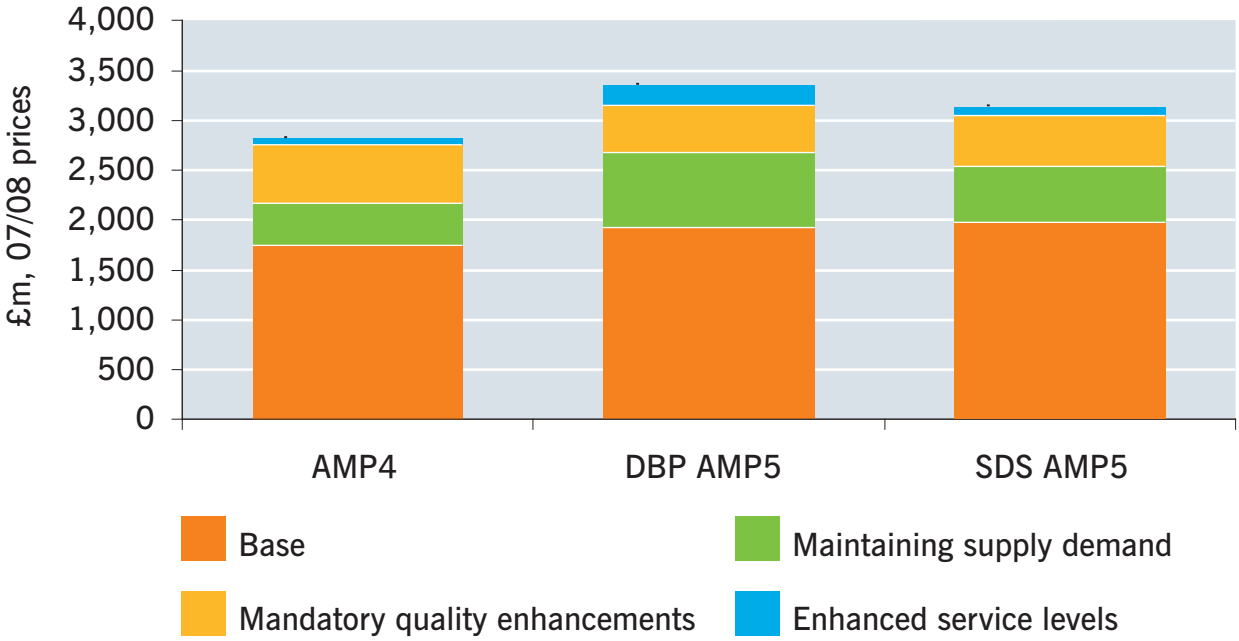
KSI 7 – Maintaining investor confidence

Privatisation has enabled funding of a large investment programme over the last 18 years – about £10 billion in our case. Our plans show that there will be a continuing large capital programme to be financed. Investor confidence needs to be maintained so that finance can be obtained at reasonable cost. The cost of borrowing has increased in recent months as a result of changed financial market conditions.

There are significant risks in the plan, including:

- potential further increases in energy costs and commodity prices – there have been very large increases over the last year
- the costs of the adoption of private sewers have not yet been taken into account and these costs are highly uncertain
- the impact of competition on revenue is uncertain.

Capital expenditure programme



The financing plan is designed to achieve an appropriate balance between risk and return. We have assumed for the purposes of this draft plan a cost of capital of 4.94% but will review this before the Final Business Plan in the light of developments in market conditions.

There is a link between the cost of capital and the capital programme. The cost of capital assumed in the price determination may affect our ability to raise the funds necessary to finance our capital programme. As such, we will need to consider at the appropriate time whether to adjust our programme in the light of the cost of capital which has been set.

Borrowing will increase by around £1 billion from 2008 to 2015. Gearing is expected to be stable at around 60%, slightly below the current industry average. Financial performance is assessed to be sufficient to maintain a good credit rating, enabling us to finance the capital programme on reasonable terms.

The key elements of our plan are:

- setting a cost of capital which ensures water remains attractive to investors in order to secure sufficient financing for our significant planned investment programme
- having a financial structure which can absorb the impact of business cycle changes and enables funding of a long-term investment plan
- providing long-term reasonable returns to equity investors
- setting a capital programme which can be financed on reasonable terms.

KSI 8 – Promoting effective regulation

The regulatory regime for the water industry has played a major role in achieving increased efficiency, service and environmental improvements over the last 15 years. A stable regulatory framework has enabled the very large capital programme to be financed, enabling improvements to be delivered.

The framework now needs to develop to respond to the new challenges facing the industry, in particular to encourage innovation, long-term sustainable solutions and the development of competition. We continue to work constructively with our regulators on ways in which the regulatory regime could be improved so that it works more effectively in customers' interests.

The key elements of our plan are:

- preparation of a draft business plan which we consider to be realistic and robust
- ensuring that our performance meets our regulators' expectations
- proactive engagement with other stakeholders to ensure that customers' needs are met in the most sustainable manner, including recommendations from the "Pitt Review: Lessons learned from the 2007 floods"
- encouraging changes to the legal and regulatory framework where this meets customers' needs, e.g. adoption of customers' water supply pipes, and recognition of the need to adopt and maintain Sustainable Urban Drainage Systems
- supporting the adoption of Private Sewers (although costs have been excluded from this plan).

Overall implications

We are planning a range of service improvements but average household bills will only increase by 1% over 2009/10 levels in real terms.

The increase in bills will be kept at this relatively low level through efficiency savings and a lower cost of capital than at PR04.

The increase in household bills is slightly lower than the proposed price limits as a result of some customers benefiting from taking up the option to have a meter installed.

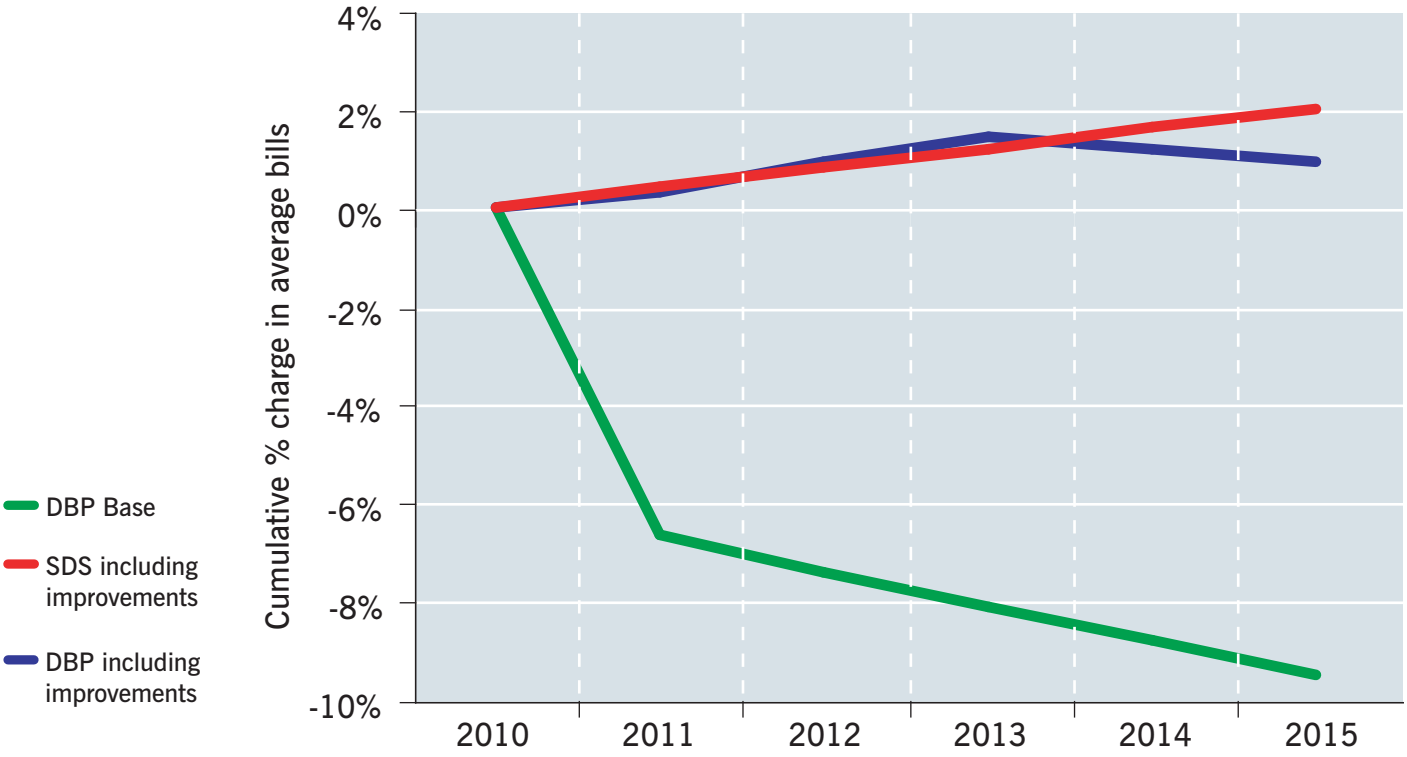
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Proposed price limits		-0.1%	+1%	+1%	+0.3%	+0.3%
Average household bills (2007/08 prices)	289	290	292	293	293	292

Our proposed total capital expenditure is similar to the level of expenditure included in the Strategic Direction Statement but higher than in AMP4 (the five-year period from 2005/06 to 2009/10).

The increase above AMP4 levels is primarily due to spending on:

- network resilience
- increased supply capacity
- increased maintenance
- managing sewer flooding

Trends in bills 2010-15 (2007/08 prices)



We believe that we have set out a balanced, optimised plan which:

- meets the needs of customers, in terms of level of bills and service improvements
- reflects the concerns of other key stakeholders
- will retain the confidence of investors and allow the proposed programme to be financed at reasonable cost.

This draft plan will now be reviewed by Ofwat, before we produce our final plan in April 2009. In order that we can deliver our plans, we need Ofwat to:

- engage with us to understand the basis of our plan, and inter-relationships between the different elements, so that there are no unjustified reductions made to the plan
- implement the new Capital Incentive Scheme in a way which ensures that we can finance our activities
- set a cost of capital which enables us to finance our functions with our chosen financial structure, i.e. a structure with a significant equity component
- consider whether financeability adjustments are necessary and whether a uniform gearing assumption should be applied across the industry
- give clarity on our determination obligations and how the enforcement process will work, including how penalties will be set, in order that the risks of non-compliance can be understood.

Next steps

We will continue to involve stakeholders as we develop our Final Business Plan. We welcome comments which should be sent to:

Tony Ballance
Director of Regulation and Competition
Severn Trent Water Ltd
2297 Coventry Road
Birmingham B26 3PU
Email: Tony.Ballance@severntrent.co.uk

Call 08457 500 500 or
Textphone 0800 328 1155

Our Final Business Plan will be a development of this draft plan, with a number of refinements planned, including:

- carrying out further market research on customer priorities to ensure that we have fully captured what they consider to be important
- work on tariffs for vulnerable customers
- further analysis of maintenance expenditure needs
- reviewing latest income trends
- working with the Environment Agency to review the environmental programme, to establish whether all measures are necessary to achieve required improvement to river standards.

There are a number of key external factors affecting our plan where the current situation is volatile and the position may be clearer by the time of the Final Business Plan, including:

- influences on operating costs, particularly:
  - energy and other commodity prices
  - the costs arising from legal changes (including the Traffic Management Act)
- influences on financing costs, in particular interest costs – the cost of borrowing and availability and source of funds
- future tax liabilities, e.g. the evaluation and implementation experience of new tax laws affecting water companies – such as the abolition of Industrial Building Allowances.

We will monitor movements in these factors and adapt our Final Business Plan accordingly. We will, however, ensure that we have a balanced plan which will meet the needs of customers and other stakeholders.

Our approach to the Draft Business Plan

This section sets out our approach to developing the Business Plan, including:

- how we have determined our plans for 2010 to 2015
- stakeholder views
- determining priorities
- making our contribution to sustainability
- adapting to climate change.

Our strategy is based on eight Key Strategic Intentions and our plans under each of these are set out in the following sections:

KSI 1 – Providing a continuous supply of quality water
KSI 2 – Dealing effectively with waste water
KSI 3 – Responding to customers' needs
KSI 4 – Minimising our carbon footprint
KSI 5 – Having the lowest possible charges
KSI 6 – Having the right skills to deliver
KSI 7 – Maintaining investor confidence
KSI 8 – Promoting an effective regulatory regime

We then show the overall implications of our strategy.

How we have determined our plans for 2010 to 2015

This Draft Business Plan sets out our plans for the next five years and the price limits needed to enable these plans to be achieved. The plan is based on consumer priorities, is consistent with our long-term plans, as set out in our Strategic Direction Statement, and is underpinned by a sustainable financing plan.

Our planning process was initiated in 2006 with the objective of building an integrated planning framework within which a long-term strategy could be developed and linked to medium-term operating plans and annual budgets through a rolling process. This approach provides consistency between our internal plans and ensures continuity to our Periodic Review submissions.

Following feedback from Ofwat and other stakeholders, we will be producing our Final Business Plan in April 2009. This will also take into account developments since producing the Draft Business Plan, including the latest information on energy and other commodity prices, financial market conditions, any tax changes, inflation and the impact of economic trends on customer demand.

Customers and the environment are at the centre of our plan. We have taken into account customer views through market research, including a major Willingness to Pay survey carried out in 2007. This established the value which customers put on improvements in the different areas of service provision and we have used this in our new investment optimisation system which balances costs and benefits to produce the

best overall plan. Our programme of improvements is supported by this customer research and is designed to have a sustainable impact on the environment. Our aim is to have the highest quality and customer service standards while offering our customers the lowest prices.

We need to contribute to climate change mitigation by managing our carbon footprint and have assessed the carbon impact of our proposals. We have given a high priority to increasing the resilience of our assets to ensure continuity of service. Even before the loss of supply in Gloucester in 2007, our surveys showed that continuity of supply was given very high priority by customers. The experience gained in 2007 highlighted that we need to take extra measures to ensure that we meet customer needs for reliable supply.

We have reviewed options to identify sustainable solutions, for example:

- we have considered blending or treatment options to maintain drinking water standards where raw water quality is deteriorating
- we will work with Natural England to manage catchments to reduce the need for higher levels of water treatment in future
- at 44 sewage treatment works we have identified that we will be able to meet tighter discharge standards without further investment.

This plan sets out the detailed proposals which are required to make progress in achieving the long-term plan set out in our Strategic Direction Statement. This was published in December 2007, after consultation with stakeholders. Our plans are generally consistent with our Strategic Direction Statement; we have set out the details of any changes in strategy. The long-term strategy remains unchanged from that set out in the Strategic Direction Statement. There have, however, been some adjustments to the pace of change in the next five years from our expectations at the time of preparing the Strategic Direction Statement, in particular:

- we were expecting in our Strategic Direction Statement to increase the rate of mains replacement above AMP4 levels, but we have assessed that this will not be necessary in AMP5
- the amount of work needed in AMP5 to increase the resilience of our assets is greater than expected
- there is more replacement required of assets installed in AMP1 in order to ensure that we continue to provide reliable services.

Our future investment programme

A significant proportion of our investment is in assets which have a very long life – water mains and sewers may be in the ground for over 100 years and some of our sewage treatment and water treatment assets are operational for up to 80 years. In order to make the right decisions we need to look ahead to what the needs of customers and other stakeholders will be over the long term. The water industry is vital to people's health, to the environment, and to the economy, and it is essential that we have robust long-term plans in place to meet society's needs in the future.

There have been major improvements since privatisation in both water and sewerage services, which have included:

- improved sewage treatment, which has contributed to 59% of rivers being assessed as being in a good state in 2006, compared with only 37% in 1990
- improved water pressure, which has reduced the number of properties as being at risk of receiving low pressure from over 23,000 15 years ago to just over 1,500 now
- meeting higher drinking water standards, and at the same time improving our performance against those higher standards. The number of drinking water tests failing to meet required standards has fallen (by 93% over the last fifteen years), with only about one in 5,000 tests failing
- reducing the number of serious pollution incidents from 238 in 1994 to only 10 last year.

We will need to invest to ensure that we keep assets in the right condition to maintain these higher standards, particularly assets from the early 1990s, some of which are now reaching the end of their design lives. We have invested over £10 billion since 1990. Our capital maintenance programme is largely based on a forward-looking approach to determine the appropriate level of investment, modelling the future rate of asset deterioration and the resulting impact on service, in line with the UKWIR Capital Maintenance Planning Common Framework.

In addition to maintaining assets, we will be investing to achieve further improvements. The scale of improvements proposed in the forthcoming period has been determined by:

- an assessment of where benefits of improvements exceed the costs
- the need to maintain bills at an affordable level
- the desire to ensure that the right investments are made. This is especially important where future requirements or the impact of major influences on our business, such as the need to adapt to climate change, are uncertain. We will need to be flexible in our response to challenges. We have included provision for pilot projects and investigations in our plans to assess the effectiveness of innovative solutions.

We will continue to deliver efficiency improvements – this ensures that bills are no higher than they need to be. We have restructured our business, which will enable us to deliver our core services more efficiently and effectively.

Stakeholder views

We have also taken into account the views of other stakeholders. Some of their key concerns, and how we have responded to them, are set out below.

Stakeholder	Key Concerns	Our Response
Ofwat	All improvements must be justified using cost benefit analysis and grounded in consumer priorities. "Companies must provide safe and reliable water services" ('Ofwat's strategy: taking a forward look' April 2008)	These requirements are integral to both the Strategic Direction Statement and Draft Business Plan
Consumer Council for Water (CCWater)	Affordability (rising levels of water poverty). Internal sewer flooding is unacceptable in the 21st Century. "The number one priority for customers is that they have a safe, uninterrupted supply of water" (Sir James Perowne, CCWater) "Customers expect their water quality to be of a high standard consistently" (CCWater Wales)	Our Draft Business Plan reflects our strategic intent for broadly stable bills (in real terms). Our programme includes action to deal with sewer flooding. We have included investment to reduce interruptions to supply and for maintaining a high standard of water quality.
Defra	Issues included in "Future Water" (February 2008): "We emphasise the importance of ensuring that water companies carry out essential works to ensure resilience against natural hazards and the predicted effects of climate change." "We must continue to manage demand, especially through increased water efficiency and reduced water wastage." "It is essential that good quality drinking water, and the investment by companies necessary to achieve it, is maintained into the future."	Our Draft Business Plan includes a significant programme to increase resilience and to reduce risk of water quality failures. Our programme to balance supply and demand includes leakage reduction and management of demand through increased metering and water efficiency measures. Our plan includes provision for higher maintenance to replace post-privatisation assets which are now approaching the end of their lives

Stakeholder	Key Concerns	Our Response
Environment Agency (EA)	There is a need to achieve good ecological status for rivers to meet the Water Framework Directive. Water resources – metering, leakage and water efficiency should be pursued ahead of new resource development. The EA wishes to see a zero target for pollutions. "The EA have also identified the need for key utilities to put better protection of critical infrastructure higher on their list of priorities in the face of climate change." (Paul Leinster, EA)	We have included the EA's full environmental programme and will be working with them to ensure that improvements are only included if justified by the environmental benefits achieved. Our Draft Business Plan takes affordability into account and links improvements to customer priorities and where possible, delivers improvements at no additional investment. We support further sewage treatment changes if justified by the benefits to river quality relative to costs. Our Draft Business Plan includes a balanced programme between demand management and capacity increases based on analysis of cost-effectiveness.
Drinking Water Inspectorate (DWI)	Standards must be met 100% of the time – there needs to be a reduction in the level of risk.	We have included a significant programme to reduce risk of water quality failures.
Customers – National Deliberative Research (June 2008)	Resistance to paying higher bills. Strongest support for reducing leakage and maintaining water quality.	We are proposing a balanced programme of improvements, with broadly stable prices. Our Draft Business Plan is based on achieving an economic level of leakage – we recognise that this may not fully meet all stakeholder expectations.
Customer research – our Willingness to pay Survey	Customers support a wide range of improvements. Top priorities are interruptions and water quality. Lowest priorities include metering and river quality improvements.	The results of this survey have been used to determine the programme of improvements included within the Draft Business Plan. The Draft Business Plan also includes mandatory improvements not supported by customer priorities.
Investors	Investors need returns commensurate with the level of risk – the perception is that risk is higher than at PR04.	We have set a cost of capital which is lower than at PR04 but which we believe will allow us to maintain a strong credit rating.

Determining priorities

Customer priorities are central to the development of our plans. Therefore customer willingness to pay (WTP) for improvements is the main basis for assessing whether the benefits of potential improvements exceed the costs. Our WTP survey involved face-to-face interviews with business and domestic customers to establish their priorities and their willingness to pay for improvements in 16 different areas of service provision. Each area of service had an associated current level of performance, at least one improved level of service and in some cases a deterioration in the level of service.

Customer WTP was established through choice experiments, with customers offered choices between different service levels and bills. We consider this to be the most reliable means of establishing customer preferences.

The aspects of service on which we consulted, and whether customers' willingness to pay generally exceeded the costs and therefore supported improvements, are shown in the table below.

Results of customer willingness to pay survey		
Significant improvements supported	Low pressure	Taste and odour
	Internal flooding	Sewage treatment works odour
	Interruptions	Discoloration
	Supply pipe ownership	Renewable energy
Improvements may be supported	Hosepipe bans	Water hardness
	Leakage	Customer contact
Significant improvements probably not supported	River quality	External flooding
	Low flow rivers	Metering

We have also incorporated into our cost-benefit analysis carbon impacts, and other social and environmental costs such as the impact of our activities on traffic congestion. On aspects of service not covered by our WTP survey we have used the results of other studies to assess benefits.

The WTP survey forms the basis for determining our programme. However, we have taken into account the ability of low-income customers to afford higher bills by reviewing the pace at which improvements are made. We have also considered the findings from the national joint customer research carried out for PR09 (the 2009 price review).

In addition to projects which are shown to be cost-beneficial, we have included some additional projects:

- projects needed to maintain service, where we do not think there is sufficiently strong evidence that customers would support a lower level of service

- the Health and Safety programme, which is based on policy decisions, rather than a cost-benefit analysis – as supported by the Ofwat guidelines
- schemes required by government or quality regulators have been included even if they are not cost-beneficial. We will be carrying out some more detailed analysis of the benefits of schemes where there is scope for review of timing or scope.

We will be carrying out further research on customer priorities before submission of our Final Business Plan. This is likely to review customer willingness to pay in the light of our Draft Business Plan proposals, extend the range of issues on which we have consulted, and review some issues in more detail. This will include customers' attitudes to leakage reduction, which is always identified in customer research as a high priority. We need to establish whether customers consider it is worthwhile paying more to reduce leakage than to use other means of balancing supply and demand.

Assessment of costs relative to benefits is carried out through our BRITE (Balancing Risk and Investment To Excel) investment optimisation modelling. The figure below illustrates the BRITE approach for investment planning and optimisation.

The process is made up of four stages.

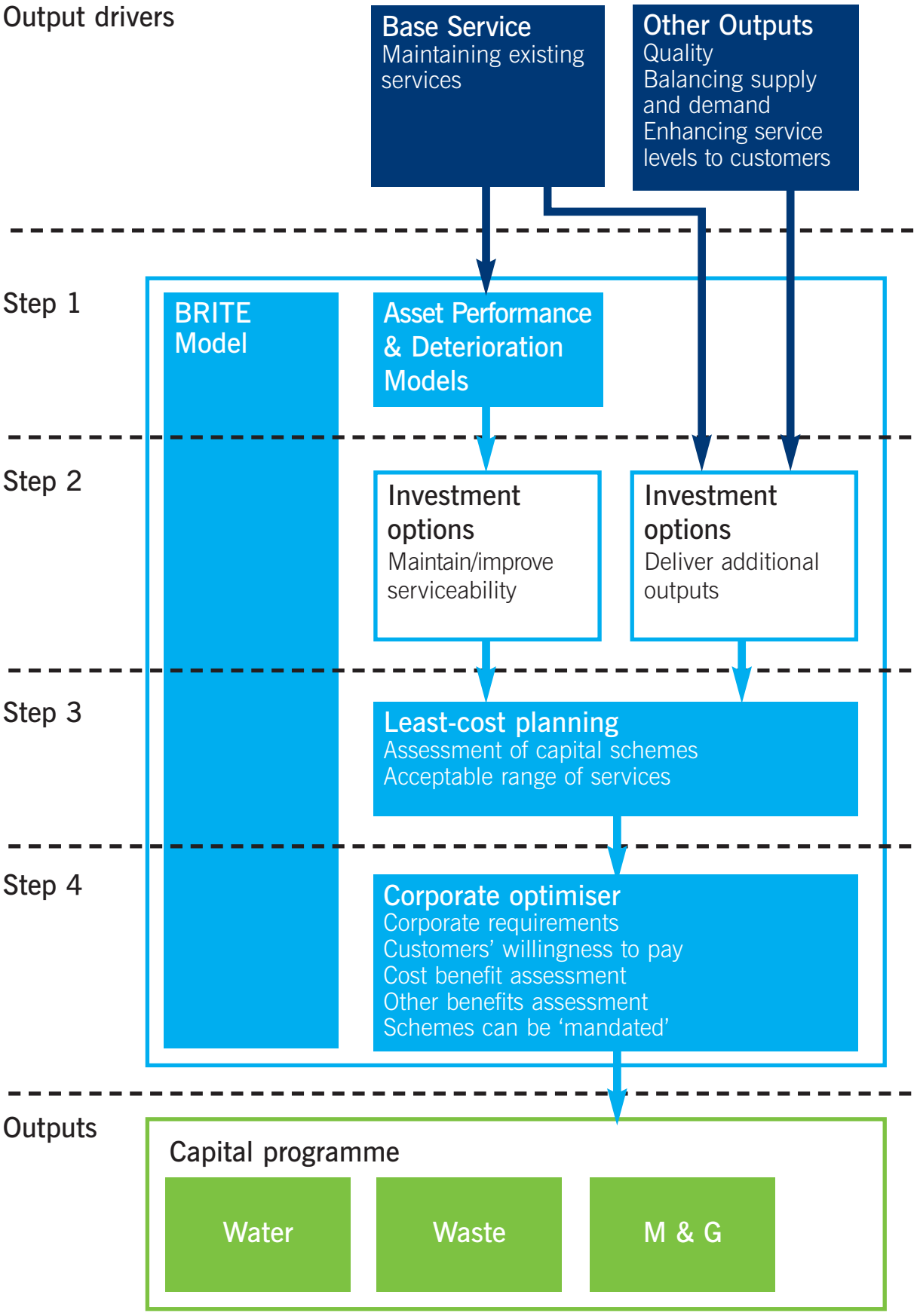
Step 1 - Asset Performance & Deterioration Models
This involves statistical analysis of the impact of asset age and other factors on asset failures, and the consequential impact on service levels.

Step 2 – Investment options
We identify investment options and their impact on asset performance, the environment, customer service and operating costs. These investment options come from either the asset performance and deterioration models or other sources.

Step 3 – Least-cost planning model
In each asset operating area, we assess the change in risk to service for all options and choose the least-cost options for delivering a range of service levels.

Step 4 – Corporate optimiser
Outputs from the least-cost planning model are input into the optimiser. Willingness to pay values are used to assess each project. Projects are selected where the benefits exceed the cost, or if they are required, e.g. to meet statutory obligations.

End-to-end investment planning and optimisation approach



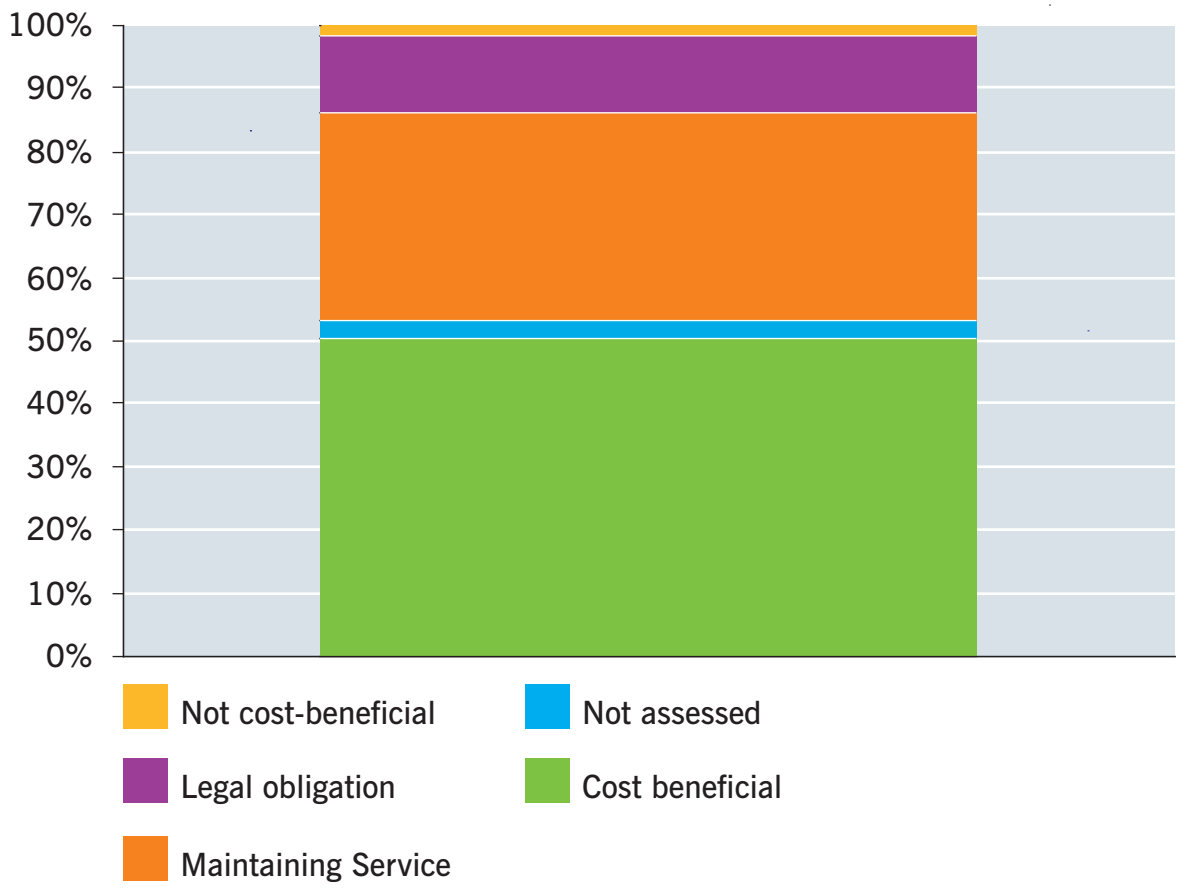
The graph below shows that most of the programme is included on the basis that:

- the benefits exceed the cost
- it is required to meet obligations. In some cases, e.g. provision of meter options, we have not assessed benefits relative to costs. In other cases, e.g. some of the sewerage environmental programme, the benefits are less than the costs, and we will be carrying out more detailed assessment of whether the schemes are justified and whether requirements can be modified
- it is required to maintain current service levels.

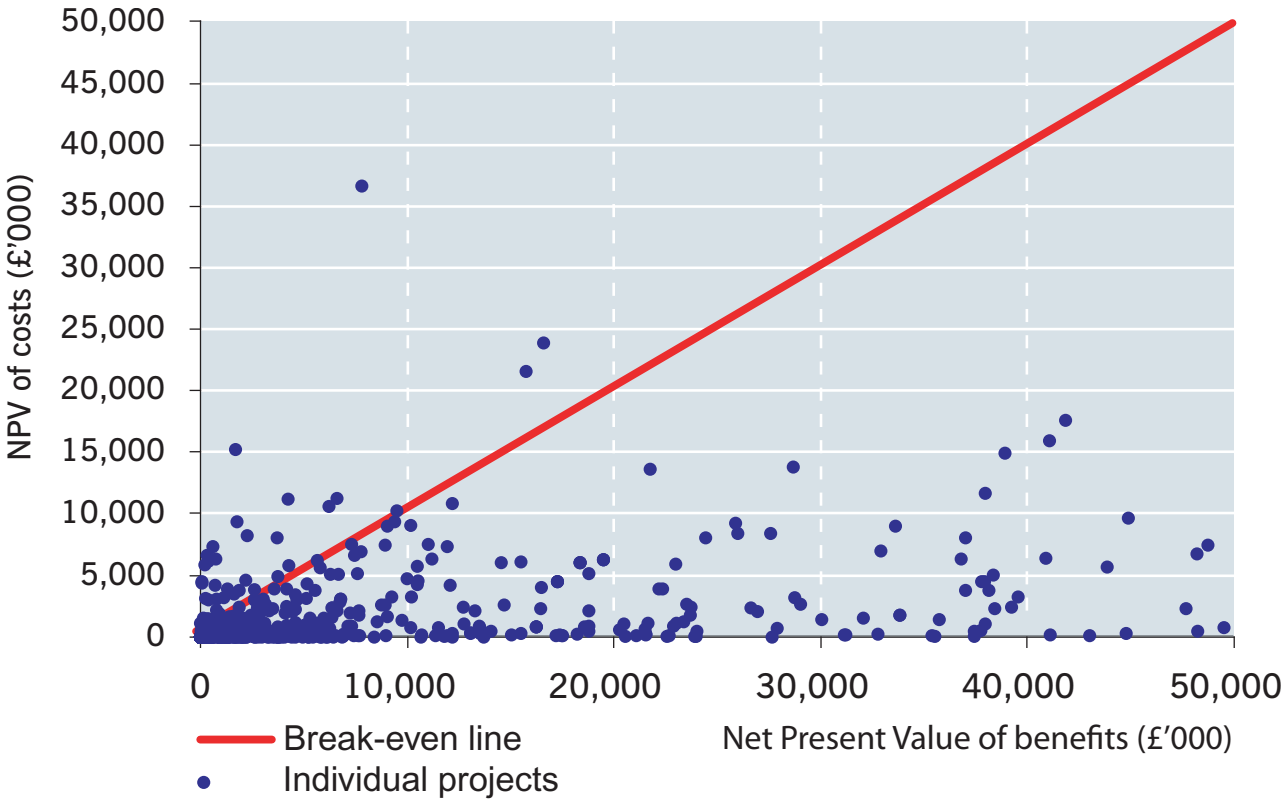
The graph on the right shows the costs and benefits for individual projects. The benefits of most individual projects exceed the costs (all projects below the red line are cost-beneficial). As noted above, we will be reviewing the costs and benefits of some of these schemes in more detail before submission of the Final Business Plan, and assessing whether benefits can be delivered more cost-effectively.

Our plan is targeted at contributing to sustainable development, through the economic, social and environmental impact of our proposals. The long-term impacts are assessed through our optimisation modelling. Our contribution to sustainability and addressing some of the long-term challenges which we face are discussed further below.

Analysis of the capital programme



Cost-benefit – project assessment



Making our contribution to sustainability

The UK Government has defined the goal of sustainable development as: "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".

We recognise our responsibility to contribute to sustainable development by taking full account of our impact on the local community and environment in everything we do. We have a major impact on our communities and regional economy:

- through the services we deliver
- as a major employer
- as a purchaser of goods and services
- through our impact on the local environment through abstraction of water and discharge of waste water
- through our management of our public access recreational sites and through education of children at visitor centres.

The government has established five guiding principles to achieve the sustainable development goal. Our contribution towards achieving these principles is set out on the following page.

Living within environmental limits

We will achieve environmental improvements through improved sewage treatment, fewer pollution incidents and reducing water abstraction where river flow is too low.

We will encourage efficient use of water through action such as education programmes, increased metering and fitting water-efficient devices.

We will work with others to deal more effectively with surface water, which will reduce flooding, and will also reduce the volume of sewage for pumping and treatment, which will lead to a lower carbon footprint.

We will work with others to ensure effective catchment management plans which recognise all stakeholders' contribution to improving the environment.

We will contribute to climate change mitigation through increased generation of renewable electricity and increasing the energy efficiency of our activities.

Ensuring a strong, healthy and just society

We give a very high priority to health and safety.

We have ensured that proposed service improvements take account of willingness to pay amongst low-income groups.

We apply cost-benefit analysis to determine which potential improvements in service meet customer needs.

We will continue to increase metering, as the only fair means of charging for the services which we provide.

We will develop payment options and continue to support our charitable trust which provides help to those in debt – to help those least able to pay – while making sure that those who can pay but won't are pursued effectively.

We are building a skilled and diverse workforce and ensuring that we retain key skills and experience.

We will champion skills development in the region and engage with schools and colleges.

We will promote the economy and the environment of the Midlands and the parts of Wales which we serve.

Achieving a sustainable economy

We will increase efficiency, so that water bills remain amongst the lowest in the country.

We will encourage charging mechanisms which ensure that environmental and social costs fall on those who impose them (Polluter Pays principle).

We will adapt to climate change so that we can continue to provide a reliable service in a changing environment.

We will increase the resilience of our services so that we can continue to maintain service when there is a failure in one part of our water network.

We will encourage development of competition to improve the efficiency of resource allocation.

Promoting good governance

Working with Ofwat, government and other regulators, to help develop:

- ensuring that our plans take full account of the views of our customers and other stakeholders
- a regulatory regime which takes a long-term approach and facilitates continued investment
- new approaches to price-setting, encouraging accurate business planning and "menu regulation", to encourage companies to reveal accurate forecasts
- a new framework for competition to allow for more customers being eligible for competition and a new approach to access pricing.

Using sound science responsibly

Ensuring that our policy on climate change adaptation and mitigation takes account of the latest scientific evidence on climate change.

Developing new approaches to generation of renewable energy.

Innovating to make our activities more efficient and sustainable, including:

- developing treatment processes which are more energy-efficient and use less chemicals
- new developments in catchment management to improve the quality of water and waste water entering treatment works, so reducing the cost of treatment.

The future challenges we face

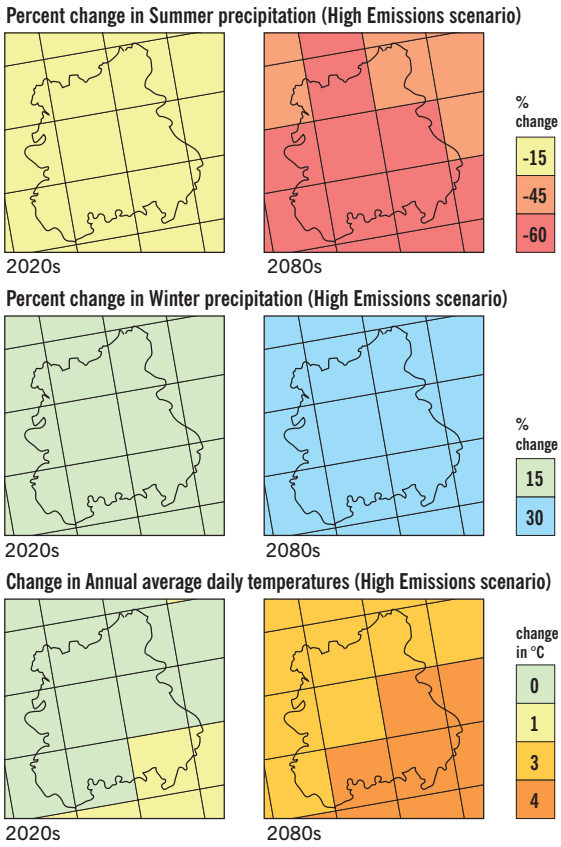
There will be a wide range of changes which we will need to address in future, including:

- increasing customer expectations on standards of service – some aspects of service fall short of what customers believe that they are already paying for and have every right to receive
- there is a need to adapt to, and help mitigate the effects of, climate change
- we need to plan for growing population
- legal requirements will result in further new investment increasing our costs, in particular the Water Framework Directive requirements to achieve good river quality and the adoption of private sewers
- we will need to ensure that we can continue to access finance for the requirements of our operations and investment programme.

Some of these challenges are discussed further below.

Adapting to climate change

Example climate change scenarios for the West Midlands



Source: UKCIP02 Climate Change Scenarios
(funded by Defra, produced by Tyndall and Hadley Centres for UKCIP)

Climate change is probably the biggest challenge we face. It is already occurring and is expected to accelerate over the coming century. As the diagram opposite shows, there will be a significant increase in summer temperatures and lower rainfall in summer.

There are likely to be more extremes of weather, with more frequent periods of intense rainfall, and we have already seen evidence of this, in terms of increased flooding. We will need to adapt our assets and our operations to deal with the changes which this will bring.

The impacts on Severn Trent Water can be split into the following categories:

- **drought** – including the effects of: lower levels of rainfall, reduced levels of groundwater and soil moisture, lower levels of infiltration
- **temperature rise** – including the effects of: higher peak and average temperatures, increased evaporation and evapotranspiration

- **flooding** – including the effects of: increased summer and winter rainfall, greater storm intensities, higher groundwater levels, and increased soil moisture.

Impacts may involve three different kinds of risk – higher or lower averages, more extremes, and a wider range of variability.

We will work closely with other bodies affecting our operations, including local authorities, the Environment Agency and developers, to ensure sustainable solutions are identified for problems created by the changing climate. For example, we support plans to make sure that new developments are water-efficient, and we will encourage development of the discharge consent regime in order that it remains appropriate for new climate conditions.

Because the impacts are uncertain, small, incremental adaptation measures are generally preferable to large one-off changes. In addition, changes which contribute to climate change mitigation are likely to be preferred to those which add to our carbon impact. We will continue to review solutions in the light of the latest climate change research.

We have reviewed the effects of climate change using the following categories for assessment:

- **severity** – e.g. impacts which have a significant impact on reliability of water supply are more significant than changes which affect costs of water treatment
- **uncertainty** – how certain is the change in climate and the resulting impacts on water industry
- **urgency** – how soon does action need to be taken, e.g. is action urgent because:
  - the impact of climate change is already being felt;
  - there is a long time-lag from planning to implementation; or
  - decisions are being made now on long-life investments where adding to capacity later to accommodate climate change would be costly.

The most immediate need for action is in the areas:

- increasing water supply capacity and managing demand in order to adapt to hotter, drier summers
- increasing our ability to deal with surface water in response to more frequent and intense storms. We support a change in the law to allow us to adopt Sustainable Drainage Systems, which deal with surface water as close to the point where the rain falls as possible, by local storage of the rain water or providing the ability for the water to soak away.

We have included measures in this plan to address these issues and will be continuing to monitor information on climate change and its impacts. We recognise that we cannot act on our own and need to work closely with other stakeholders to achieve the best solutions.

Population changes

The population is growing, with smaller households and shifts in population. This will require us to plan changes in our infrastructure networks and treatment works capacity for both water and sewerage. There is currently a drive from national government to

dramatically increase the supply of new housing. Many towns and cities in the Midlands have been identified as growth points. There is, however, some uncertainty as to whether this projected growth will occur, particularly in the short term given the downturn in the housing market. We will continue to monitor trends and our plans will need to be flexible to respond to changing trends.

Uncertainties in the plan

Our Final Business Plan will be a development of this draft plan, with a number of refinements planned, including:

- carrying out further market research on customer priorities to ensure that we have fully captured what they consider to be important
- work on tariffs for vulnerable customers
- further analysis of maintenance expenditure needs
- reviewing latest income trends
- working with the EA to review the environmental programme, to establish whether all measures are necessary to achieve the required improvement to river standards.

Developments for the Final Business Plan

There are a number of key external factors affecting our plan where the current situation is volatile and the position may be clearer by the time of the Final Business Plan, including:

- influences on operating costs, particularly:
  - energy and other commodity prices
  - the costs arising from legal changes (including the Traffic Management Act)
- influences on financing costs, in particular interest costs – the cost of borrowing and availability and source of funds
- future tax liabilities, e.g. the evaluation and implementation experience of new tax laws affecting water companies – such as the abolition of Industrial Building Allowances.

KSI 1

Providing a continuous supply of quality water

Our research shows that ensuring a safe, reliable water supply is the top priority for our customers.

The key challenges facing us are:

- our existing water supply system is unable to meet customers' increasing expectations of service in terms of continuity of supply, pressure and quality
- some of the water treatment equipment installed as part of our large improvement programme in the early 1990s are reaching the end of their design lives and will need replacement
- with increasing population, climate change and increasing use, we do not have sufficient water available to meet long-term demand.

The key elements of our plan to address these challenges are:

- increasing the resilience of our assets to reduce the risk of supply failures
- reducing interruptions to supply
- meeting water quality standards through a programme to increase treatment where water quality is deteriorating
- increasing maintenance expenditure on water treatment works to ensure that we maintain high standards
- balancing supply and demand through:
  - reducing leakage through increased detection
  - accelerating the installation of customer metering
  - promoting water efficiency through the use of more water-efficient equipment, and education programmes
  - making best use of our existing water sources through supply integration projects.

Each of the key elements of our plan to ensure a safe, reliable water supply, and the expenditure necessary to deliver the plan, is described below. At the end of this section expenditure is summarised using Ofwat categories of expenditure.

Providing a continuous supply of quality water

Increasing resilience

The flooding incident in Gloucestershire in 2007 highlighted that we have inherent risks in our network which are no longer acceptable. In addition, the increasing frequency of intense rainfall is increasing the risk of an impact on our assets. We identified in our Strategic Direction Statement the need to improve the resilience of our strategic network to reduce the risk of customers losing their water supply from all

Flooding at Mythe

potential causes including flooding. The improvements we are proposing in this plan will provide over the next ten years an alternative piped source of water to all communities larger than 20,000 people.

- 1.4 million people who are currently dependent on a single source (nearly 20% of customers) will benefit from an alternative source if their normal source of water fails.
- 0.6 million people (8% of customers) who are currently dependent on a single pipe will be provided with an alternative piped supply. This programme ensures compliance with the Security and Emergency Measures Direction, which requires us to ensure that we can maintain supplies in the event of a serious emergency.
- We will reduce the likelihood of failure by:
  - protecting ten treatment works at risk of flooding from a 1 in 200 year rainfall event
  - removing single points of failure from eleven critical sites
  - providing resilient power supplies at 29 sites.

Customers indicated strong support for reducing interruptions to supply in our Willingness to Pay survey and the improvements we propose are justified by the benefits they deliver. Our cost-benefit analysis showed benefits to be about 20 times the cost. The survey was carried out before the loss of supplies in Gloucester; support for continuous service might now be greater. Research carried out by the Consumer Council for Water in the Gloucester area after the incident showed the importance to customers of ensuring that there was no repeat incident.

Reducing interruptions

In addition to the proposals to reduce the risk of major failure, we will reduce the number of short-term interruptions. Even excluding the Mythe incident, our current performance on interruptions to supply is not satisfactory. Nearly 71,000 customers experienced an interruption of over six hours in 2007/08, compared with 23,000 in 2006/07 and 13,000 in 2005/06.

Our analysis indicates that the increase is not due to asset deterioration and shows a need for operational improvements. We took action to improve performance in 2007/08 and we are carrying out a comprehensive review of the Company's supply interruption business processes across all functional departments. We are committed to achieving an improvement in performance in 2008/09.

Further improvements are planned for AMP5 (the five-year period from 2010/11 to 2014/15). We will increase levels of investment in ancillary assets, such as air valves and isolation valves, as failure of these assets is contributing to unplanned interruptions. We will also increase the resilience of our aqueducts by increasing maintenance on these key assets.

We will improve the monitoring and control of our network to reduce unplanned interruptions by installing more real time monitoring of our network, with the installation of over 1,000 real time flow and quality monitors.

Maintaining the network

Serviceability of the water mains network is stable, with the number of mains bursts steady over time. This has been achieved with a level of mains renewal in AMP4 which is significantly greater than that implicit in the 2004 Final Determination. Our assessment is that this level of renewal needs to be continued in AMP5 in order to avoid a deterioration in our network and the consequential impacts on supply interruptions and leakage. Our Strategic Direction Statement indicated that a further increase in the rate of replacement would be needed. However, following further work, our current assessment is that this will not be needed in AMP5.

Our maintenance activity to ensure our assets remain in the condition necessary to deliver service is summarised as follows:

Mains renewal	Renew 1,300 km of our network over five years (0.63% of our network per year)
Trunk main renewal	Renew 63 km of our trunk main network over five years (0.13% per year)
Distribution ancillaries	Replace £12 million worth of ancillary assets
Aqueduct maintenance	Renew 20 km of our aqueduct network over five years (0.9% per year)

Total expenditure on ensuring a continuous supply of water is summarised in the table below:

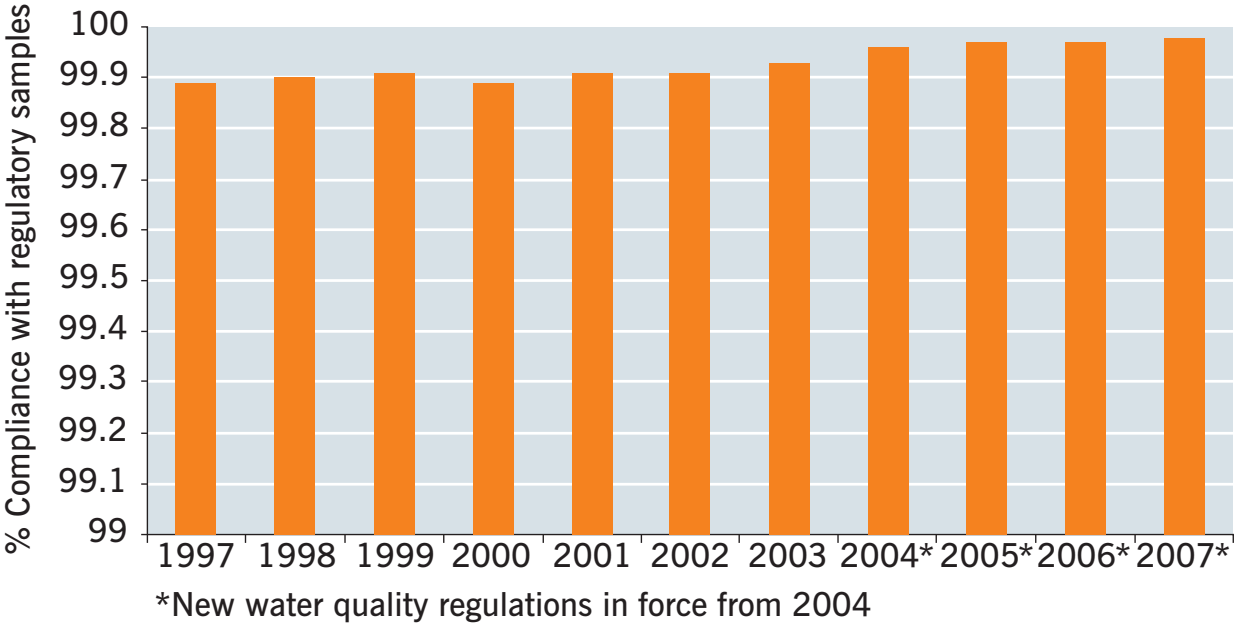
Providing a continuous supply of quality water – expenditure		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
Resilience of Water Treatment Works/network	138	0.7
Removing dependency on a single pipe	66	
Resilience by maintaining borehole assets	29	
Flood protection	13	
Power supply enhancements	4	
Security and Emergency Measures Direction	16	
Sub total – resilience	**266**	**0.7**
Improved network monitoring and leakage detection	11	0.4
Distribution mains and communication pipes	283	0.1
Renewal of trunk mains and valves	34	0.1
Installation/maintenance of leakage equipment	38	1.1
Sub total – reducing interruptions	**366**	**1.7**
Aqueduct maintenance	59	
Meter maintenance	22	
Other (Cathodic protection and pipe bridges)	5	0.2
Sub total – maintaining the network	**85**	**0.2**
Total – ensuring a continuous supply	**717**	**2.6**

Providing safe, acceptable drinking water

The Water Quality programme

Our performance in meeting drinking water standards is very good, having consistently achieved over 99.9% compliance with water quality standards every year since 1997. Management of water quality issues and targeted investment to reduce the risks of failure have ensured that compliance has improved. The number of failures of water quality standards from 1993 to 2007 is shown in the graph below.

Compliance with water quality standards from 1997 to 2007



*New water quality regulations in force from 2004

Our commitment to the Drinking Water Inspectorate's Drinking Water Safety Plan approach is identifying opportunities for further improvement and we have identified some specific expenditure in our maintenance programme to reduce further the risk of compliance failure.

In the AMP4 period we are investing over £140 million in improving water treatment and distribution processes. Programmes of work were agreed with Drinking Water Inspectorate, mainly to tackle raw water deterioration and ensure compliance with the tightening lead standard.

Our research shows that ensuring a reliable, safe water supply is the top priority for our customers and that they are willing to pay for improvements. Our plan builds on and reflects the priorities in our Strategic Direction Statement and we intend to:

- improve our treatment processes where raw water quality is deteriorating to ensure that we maintain compliance with quality standards. We have made the assumption that, with the exception of the new lead standard, there will be no significant changes in drinking water quality standards
- improve the acceptability of drinking water
- continue to implement a comprehensive risk assessment and management approach, as recommended by the Drinking Water Inspectorate, including catchment management

- improve our water quality monitoring at treatment works and in distribution to measure performance improvements.

Our proposed programme schemes fall into four main categories:

- a continuation of our integrated strategy to deal with the continuing deterioration in nitrate levels in our groundwater catchments
- localised schemes to ensure maintenance of compliance in areas affected by raw water quality deterioration in respect of solvents, pesticides, cryptosporidium and pH
- a plan to deliver 95% compliance with the 2013 lead standard of 10μg/l
- a plan for the management of quality risk through Drinking Water Safety Plans and the enhanced management of catchments.

New requirements may arise from the revision of the Drinking Water Directive which may be completed as early as end-2008, or as late as 2011. They may also arise from statutory improvement programmes to mitigate risks required by DWI following their assessment of Drinking Water Safety Plans which will be submitted in October 2008.

Our strategy for nitrates in AMP5 (the period from 2010/11 to 2014/15) continues the approach implemented in AMP4, of investment in measures to ensure compliance in response to predicted failure. Predicted failure is based on statistical trending of nitrate levels and assessment of distribution arrangements. The schemes we have included within our plan are for sites where we predict maximum nitrate levels in supply will be in excess of 50 mg/l by 2017, unless nitrate reduction measures are introduced.

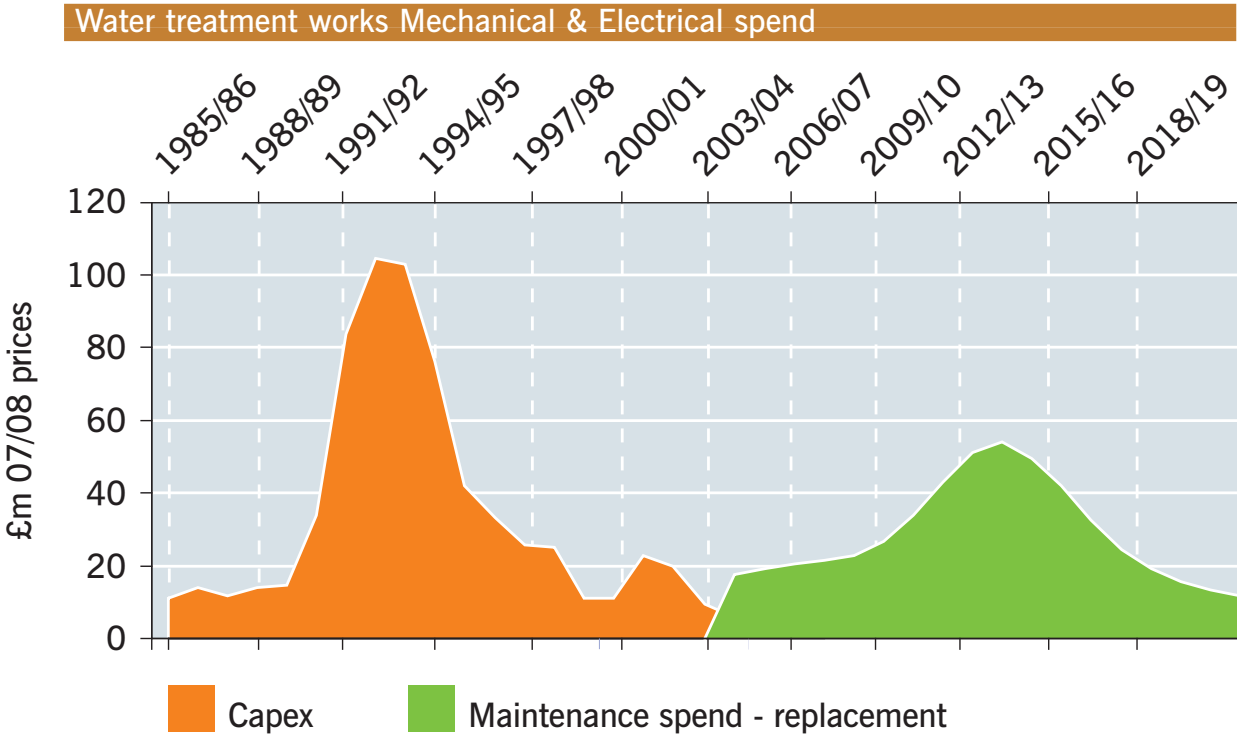
Two water quality zones, with a total population of 100,000, have been identified as requiring lead pipe replacement solutions to ensure compliance. We are currently working with the relevant local authorities to develop our strategy for addressing these issues. A pilot lead pipe replacement trial is currently being progressed and is forecast to be complete by the end of 2008. Due to the large numbers of customers involved we plan to deliver this programme across the AMP5 and AMP6 periods. The Drinking Water Inspectorate have recently informed us that they do not support our proposals and we will discuss these further with the Drinking Water Inspectorate before the Final Business Plan.

Drinking water acceptability

In addition to the programme to meet water quality standards we are proposing a programme of three schemes to increase acceptability of drinking water by improving taste, and management of disinfection, by reducing the Total Organic Carbon content of the treated water. This will benefit over 1.6 million customers. Our Willingness to Pay survey results show that these improvements are supported by customers – the analysis showed the benefits to be nearly ten times the costs.

Maintaining assets

Serviceability of water treatment assets is stable, in terms of maintaining performance on water compliance measures. However, our models for forecasting asset deterioration and service impacts indicate that an increase in maintenance spend at water treatment works will be needed in AMP5 in order to maintain our current high performance of compliance against standards. This results mainly from the high level of expenditure in AMP1 (1990/91 to 1994/95); the mechanical and electrical elements of this expenditure are coming towards the end of their design life. The effect is shown in the graph below:



In addition to the AMP1 asset maintenance effect we will increase our levels of maintenance to:

- maintain boreholes approaching the end of their life, which would otherwise have to be abandoned
- remove bulk chlorine from our sites
- invest in several large projects such as Frankley pumping station and Ambergate Reservoir which are amongst the largest assets which we have
- automate a number of our water treatment works as part of our strategy to deliver efficiency through process improvement.

Summary of expenditure

The expenditure on the programme to ensure safe, acceptable drinking water is summarised on the following page.

Providing safe, acceptable drinking water – expenditure		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Raw water deterioration - nitrate removal	39	0.5
Raw water deterioration – other	10	0.1
Lead – pipe replacement	7	1.1
Lead – phosphate dosing	1	
Sub total – The Water Quality Programme	57	1.8
Improving drinking water acceptability - taste and odour	6	1.3
Sub total – taste and odour improvements	6	1.3
Water treatment works	142	0.6
Pumping stations	41	-0.1
Service reservoirs	37	0.2
Dams and Impounding reservoirs	14	
Disinfection management	23	0.1
Hydraulic modelling	13	
Other (inc fluoride, turbidity, transport)	29	0.1
Sub total – maintaining assets	299	0.9
Total – Providing safe, acceptable drinking water	362	3.9

Having enough water available to meet demand

We are currently implementing a programme of schemes to increase supply capacity. We have given an undertaking to Ofwat to achieve a Security of Supply Index of 97 by 2009/10 and are on target to achieve this (an index of 100 means that no water resource zones have a supply deficit). In 2007/08 the index was at 95.

However, without action to increase supply or to manage demand, the current relatively small deficit will widen. This is due to factors including climate change, demand growth and requirements to reduce abstraction at some locations. We face a shortfall of water of 102 Megalitres per day (Ml/d) by 2014/15 (about 5% of our current supply of 1,900 million litres per day).

Our proposed strategy is based on an assessment of which options would maintain the future supply/demand balance at the least cost to customers and to the environment. We do not propose to develop any new sources of water in the 2010 to 2015 period. Our proposals are:

- to reduce leakage to a new economic level of 476 Ml/d by 2015. This will be achieved predominantly through additional detection and repair, with some savings also achieved through District Meter Area restructuring to enable us to target leakage control more effectively. The reduced level of leakage will provide an additional 20 Ml/d of water to meet demand

- to accelerate domestic customer metering through further promotion of our free meter option and, in one of our most water stressed zones, through a policy of compulsory metering when a property changes occupier. This is expected to reduce demand by around 3Ml/d (in addition to the benefits gained from current levels of take-up of the free meter option)
- to extract the most value from our existing water resources by improving the connectivity of our network. For example, we propose to increase the capacity of our Derwent Valley Aqueduct which will enable us to move more water from the north of our region, where we have a surplus, to the south, where we have a deficit. This provides around 60 Ml/d of additional water in the south. Other schemes will add a further 12 Ml/d
- to increase water efficiency through working with our domestic and commercial customers to install more water efficient equipment and to promote water conserving behaviour. We expect these activities to reduce demand by around 2Ml/d.

In the longer term, we have identified the need to develop new water resources schemes that will deliver around 125 Ml/d of new supply capability. Some of our proposals could take 10 years or longer to plan, build and commission and we propose to begin the next phases of planning, feasibility and more detailed engineering appraisal in the period from 2010 to 2015. We are currently consulting on our draft Water Resource Plan, which contains full details of our proposals for the period to 2035, and this is available on our website.

In addition to increasing the amount of water available, we will need to increase water mains capacity to ensure that we can supply sufficient water at times of peak demand. This investment is required as a result of changing demand patterns and more frequent hot summers.

The total proposed expenditure is summarised below:

Having enough water available – expenditure		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
Water transfers/additional resources	72	
Low flow river investigations	4	
Water efficiency	1	1.7
Sub total - making additional water available	77	1.7
Sub total – increasing distribution capacity	9	0.0
Mains diversions	20	
New development	58	1.8
Sub total – responding to regional development	78	1.8
Installation of meters	42	1.9
Total – Having enough water available to meet demand	206	5.4

Ensuring water is at an adequate pressure

We have improved the extent of pressure monitoring by installing permanent pressure monitoring devices in all our District Metered Areas. Previously we only permanently monitored areas that had been identified as potentially at risk, principally through the investigation of customer complaints. This has led to a temporary increase in the number of properties, to 1,546 properties at the end of 2007/08, compared with a Monitoring Plan target of 1,100. We expect to meet the monitoring plan target of 1,100 properties during 2008/09, through operational changes and a number of capital schemes.

Low pressure problems will continue to arise, due to changing demand patterns, population growth and new development. Our plan provides for dealing with 1,400 new problems per year.

A large number of remaining low pressure problems relate to properties with joint supplies, where a single pipe leading from the water mains supplies several properties (typically four to six). We get around 2,000 complaints a year about low pressure where a customer is on a joint supply. We believe that joint supply pipes will become increasingly unsatisfactory for customers. Modern appliances demand a higher and more consistent pressure. We do not know how many joint supplies there are but we have commenced work to improve the estimate and our AMP5 proposals include a full-scale survey, covering around two million properties, to establish the extent of the problem.

We carried out a pilot survey of 1,000 properties to record supply pipe details; initial findings suggest that up to 7% of joint supplies were at risk of failing the low pressure standard. A more extensive survey will be undertaken between draft and final business plan submissions to verify these initial findings and confirm solution costs.

Our Strategic Direction Statement proposed that, in the medium term, we should separate joint customer supply pipes. We currently have a limited programme for the separation of shared communication pipes to improve pressure and flow. A likely outturn for the whole AMP4 period is 2,500 separations compared with 7,500 assumed in the 2004 Final Determination. We have found that customers were unwilling or unable to finance the works on their own pipework. Therefore our plans for AMP5 include a lower rate of take-up and proposals for a customer incentive for work to be carried out on the customer's own pipework.

Our Strategic Direction Statement proposed that we should take over responsibility for customers' supply pipes, up to the internal stop-tap. Our survey of Willingness to Pay shows significant support for taking over supply pipes (£5.55 per domestic customer) and for reducing low pressure problems (£3.57 per domestic customer to resolve 5,000 problems). Supply pipe adoption would also have benefits in terms of reducing leakage and reducing the number of customers with lead supply pipes.

The expenditure opposite includes the costs of a survey of all supply pipes and the costs of resolving low pressure problems identified. The proposed supply pipe survey will assist with our objective of taking over customers' supply pipes in the longer term.

Expenditure – dealing with low pressure problems		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Resolving new low pressure problems	10	0.1
Supply pipe survey and data maintenance	4	0.3
Company supply pipe replacement	24	1.1
Customer supply pipe separation	1	
Total – dealing with low pressure problems	39	1.5

The total programme for ensuring a continuous supply of quality water is shown in the table below, which shows how the expenditure is split between Ofwat cost categories.

KSI 1 – Ensuring a continuous supply of quality water – expenditure								
Area of expenditure	Ofwat cost category							
	Capex (£m)				Opex (£m p.a.)			
	Maintenance	Quality	Supply Demand	Enhanced Service	Maintenance	Quality	Supply Demand	Enhanced Service
Resilience	29	82		155		0.1		0.6
Reducing interruptions	335		19	11	1.1		0.2	0.4
Maintaining the network	86				0.2			
Total – ensuring a continuous supply	717				2.6			
The Water Quality programme		58				1.8		
Improving drinking water acceptability - taste and odour				5				1.3
Maintaining assets	299				0.8			
Total – providing safe, acceptable drinking water	362				3.9			
Making additional water available		4	73				1.7	
Increasing distribution capacity			9					
Responding to regional development	20		58				1.8	
Installing meters			42				1.9	
Total – having enough water available to meet demand	206				5.4			
Resolving low pressure problems			38	1			1.5	
Total – resolving low pressure problems	39				1.5			
Total by expenditure category	769	144	239	172	2.1	1.9	7.1	2.3
Overall total	1,324				13.4			

KSI 2

Dealing effectively with waste water

Our customers should have confidence that we will take away their waste and treat it to the highest environmental standards before returning it to our region's rivers.

The key challenges facing us are:

- more sewer flooding problems because of increasing storm frequency and severity due to climate change, and more surface water run-off as a result of new housing development and paving over permeable surfaces
- increasing expectations for good environmental performance – the Water Framework Directive requires rivers to be brought up to good ecological standard, and we need to reduce the number of pollution incidents
- the need to reduce our carbon footprint
- some of the sewage treatment assets installed as part of our large improvement programme in the early 1990s are going to need replacement
- privately owned sewers are to be transferred into our ownership. However the timing of this, and the extent and condition of these assets, are unknown
- pressure on the agricultural recycling route for sludge disposal
- decreasing tolerance of odour, while housing development close to treatment works increases the potential for odour problems.

The key elements of our plan to address these challenges are:

- action to reduce the number of sewer flooding problems
- meeting new standards for sewage treatment, but we will be challenging new requirements where we do not think they are justified
- increasing maintenance at sewage treatment works
- increasing sewer replacement and a programme of measures to achieve a further reduction in pollution
- a programme of measures to reduce odour problems
- developing new technology for use of sewage sludge as a renewable energy source.

Our proposals are based on meeting statutory standards, making improvements which customers support and ensuring that we have a sustainable impact on the environment. In line with Ofwat's requirement, we have not at this stage included the costs of adopting private sewers.

Each of the key elements of our plan to deal effectively with waste water, and the expenditure necessary to deliver the plan, is described below. At the end of this section expenditure is summarised using Ofwat categories of expenditure.

Addressing flooding from sewers

Sewer flooding is extremely distressing and traumatic and affects customers' quality of life dramatically. It is the worst service failure our customers can experience and we regard sewer flooding as being unacceptable. Our Willingness to Pay survey showed

significant support for reducing sewer flooding. In our Strategic Direction Statement we stated that "Our aim will be to eliminate flooding of properties from sewers, except as a result of exceptionally high rainfall which exceeds the design standards for our system".

To achieve that long term vision we plan to:

- deal with existing hydraulic inadequacies in our sewerage system
- to the extent that it is practicable, progressively remove surface water drainage connections to foul combined systems
- as necessary, reinforce the capacity of our sewerage system to prevent future flooding problems
- work with planning authorities and developers to limit construction of properties in flood pathways
- work with other stakeholders to develop integrated flooding solutions. We welcome government plans to deliver improved management of surface water flooding and will play our full part in the development of new approaches.

Sewer flooding problems continue to emerge and our early work into predictive modelling shows that this is likely to remain the case in the foreseeable future. New modelling techniques mean that identification of properties which are at risk is becoming practicable. We have trialled one version of this methodology in one of our Drainage Areas and plan to build this into the next reviews of our Drainage Area Plans.

Our target for the AMP4 period is to reduce the number of properties on the register as being at risk of internal sewer flooding by 158. This was expected to be delivered by resolving 993 sewer flooding problems. However, the rate of discovery of new problems has been significantly higher than expected.

This increased rate of additions is largely a result of increased investigation of flooding incidents, including asking customers about any previous flooding. If we had followed previous practice, basing additions mainly on rainfall data, then we would expect that the 2004 Final Determination output would have been met. This is an area where Ofwat is conducting research to ensure consistency of approach across the industry.

We have increased spending and are delivering around 250 more solutions than assumed at the last price review. We will achieve the lowest practicable register position within the remaining time available in AMP4. We are discussing with Ofwat the extent to which it is possible to deliver improvements, taking into account the time it takes to plan and construct solutions.

We forecast that on 31st March 2010 there will be 1,280 properties on the internal flooding register. This is sensitive to changes in additions rate for the final two years of AMP4 and our actual delivery rate, and the time needed to develop solutions.

Our proposals for AMP5 are based on a forecast rate of 349 new additions per year. As we do not yet know the whereabouts of these future problems we have used past experience to estimate the nature of the potential solutions and their costs. Our internal flooding programme will deliver 2,425 internal benefits (i.e. 668 outstanding from AMP4, 5 years' additions of 349 properties per year plus 12 high cost beneficial benefits). The end of AMP4 register position will be influenced by actual addition rate and benefit delivery in the final two years of AMP4. We will review this forecast for the Final Business Plan.

80% of internal flooding projects also deliver external benefits, in gardens, highway and other flooded areas. Therefore as part of our programme to deliver 2,425 internal benefits we expect that around 1,393 external benefits will also be delivered. We are also proposing to undertake a small programme to target the worst external-only problems and we have included provision to undertake 123 external-only problems in AMP5. Therefore in total we expect to deliver 1,516 external benefits (2 in 10 and 1 in 10).

Mitigation Plan

Our aim is to ensure that around 90% of future additions are protected from flooding until a permanent solution can be completed. Based on the predicted additions to the flooding register in AMP5, we expect that we will need to protect 1,590 properties using mitigation (91% of the 349 additions for 5 years).

For external mitigation we plan to increase activity levels compared with AMP4. In future, as the numbers on the internal flooding register are reduced, we feel that there will be greater pressure to concentrate on alleviating external flooding incidents. We are planning to double mitigation activity on external flooding and to protect 2,190 gardens in AMP5.

Preventive work

We plan to commence work on taking a proactive approach to alleviating flooding problems before actual flooding occurs. This approach will be complemented by projects to undertake foul/surface water separation projects to remove surface water from combined sewerage systems, to free up sewer capacity. Part of the benefit from this will be prevention of sewer flooding.

This approach is new and in AMP5 we propose to develop pilot projects to evaluate their effectiveness in reducing future flooding problems. At present pilot areas are still to be defined but we have allowed £15 million in our plan for the proactive approach for AMP5 and a further £10 million to pilot the foul/surface water separation.

We will also look to gain the benefits of applying integrated urban drainage to future sewer flooding improvements.

Our planned AMP5 sewer flooding programme is set out opposite:

Dealing with sewer flooding – expenditure		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Dealing with internal sewer flooding problems	269	0.7
Dealing with external sewer flooding problems	8	
Proactive approach to dealing with sewer flooding	14	
Sub total – dealing with sewer flooding problems	291	0.7
Toolkit measures to prevent internal flooding	19	
Total – Dealing with sewer flooding	310	0.7

Number of flooding problems resolved	
Internal	2,455
External	1,511

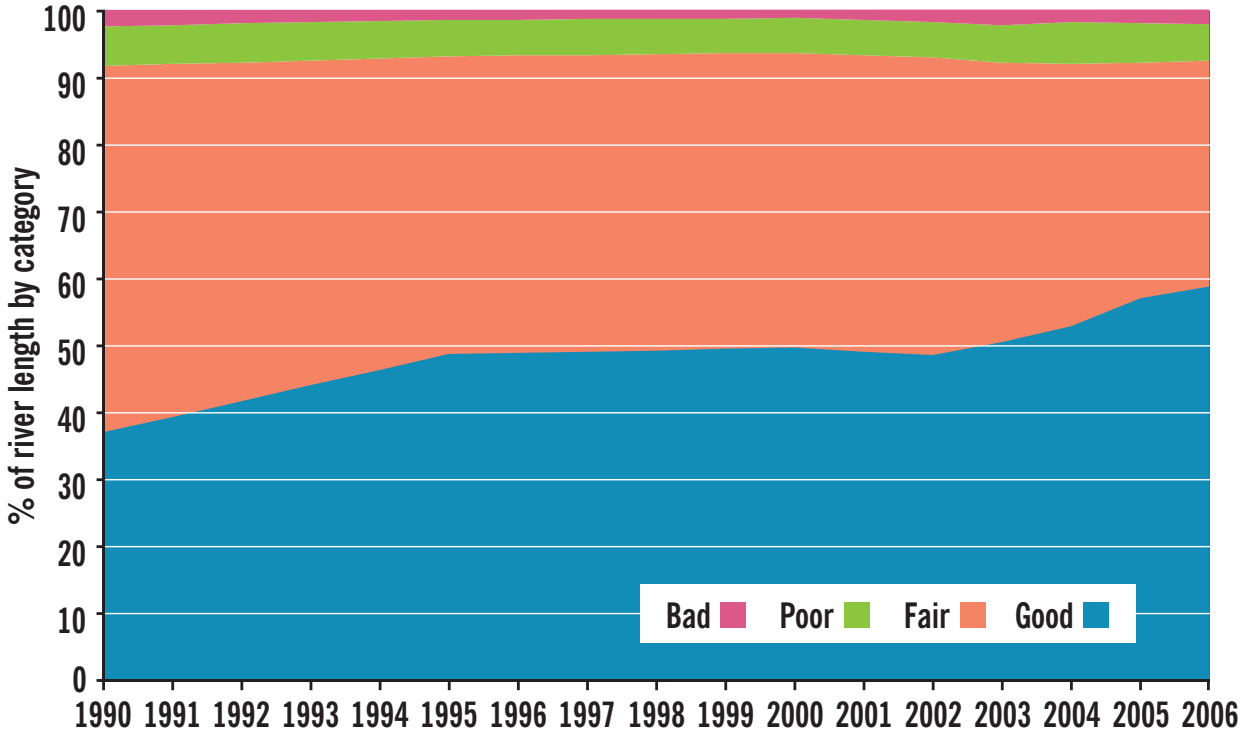
Meeting standards for sewage treatment

Maintaining current performance

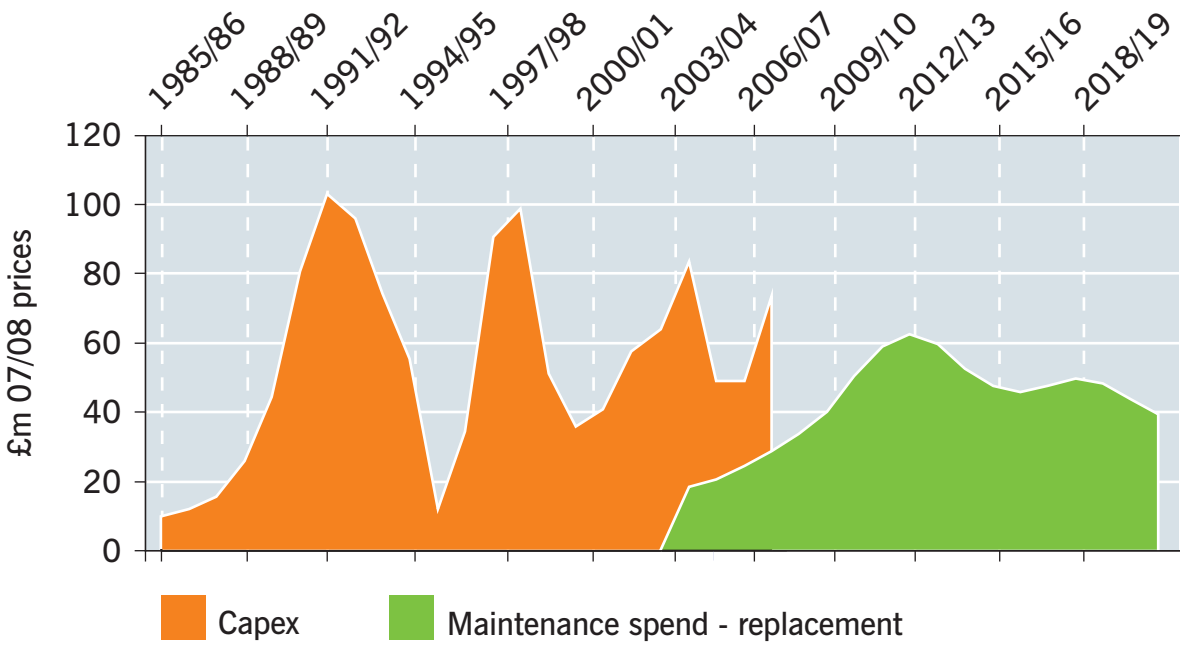
River water quality in the Severn Trent Water area has improved significantly, with an increase in the proportion of rivers of good standard from 37% to 59% over the last 15 years. As noted by the EA, much of this improvement is due to changes in sewage treatment standards.

We have a very good record on meeting the required standards for sewage treatment discharges, failures are rare and we show stable performance on Ofwat's serviceability measures.

River quality — Source: EA General Quality Assessment



Sewage treatment works Mechanical & Electrical spend



We aim to maintain performance against current standards. In order to achieve this, the amount of maintenance work needed on assets will increase over time. Our sewage treatment asset base has expanded significantly over the last 15 years, to meet higher treatment standards.

Our models for forecasting asset deterioration and service impacts indicate that an increase in maintenance spend will be needed in order to maintain our current high performance of compliance against standards. This results mainly from the high level of expenditure in AMP1 (1990-95); the mechanical and electrical elements of this expenditure are coming towards the end of their design life. The effect is shown in the graph above.

Meeting new standards

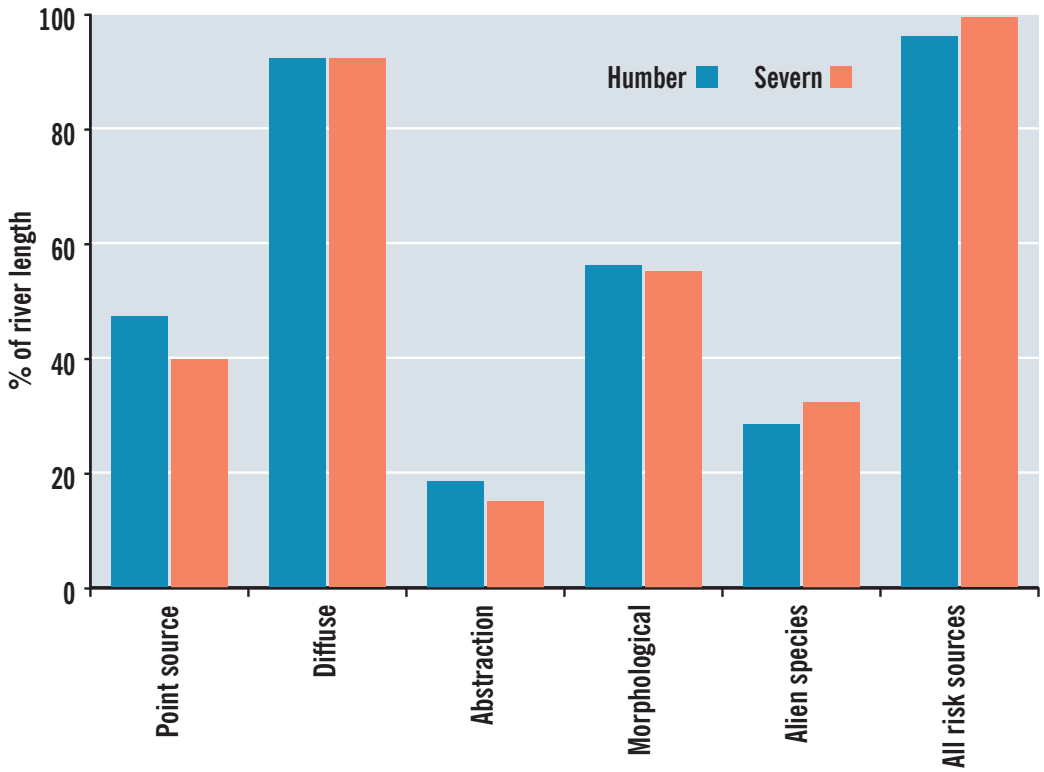
There will be further tightening of discharge standards in AMP5. The largest element of the programme is phosphorus removal under the Urban Waste Water Treatment Regulations (UWWTD), accounting for over half of the improvement programme, following the designation of the River Trent as a Sensitive Area.

We have based our investment programme on the National Environmental Programme for our area as notified to us by the EA. We have contributed to the development of this programme and have enjoyed an open communication process with both the Environment Agency and Natural England. We consider that the costs and benefits of the proposed programme need to be reviewed to assess whether some schemes should not be progressed for PR09. We anticipate that further discussion and evaluation will result
in obligation changes for the Final Business Plan. We consider there is a particularly strong need for review of the proposals in relation to:

- marginal ecological benefits for some UWWTD phosphorous removal obligations, where treatment works discharges contribute little to the load in the watercourse at that point
- tightening of requirements where improved flow measurement has led to a reassessment of flows from treatment works, but improvements are not necessary to achieve required river quality standards
- low benefit from removal of direct discharges to groundwater.

In addition to UWWTD requirements, further tightening of standards for AMP5 are being driven by the Water Framework Directive. The Water Framework Directive is designed to ensure that all water bodies achieve good status and a high proportion of rivers within the Severn and Humber river basins are at risk of not achieving this (see graph below).

Rivers at risk of not achieving good status



The Water Framework Directive provides for river quality objectives to be achieved by the most cost-effective means, and that objectives can be modified if they can only be achieved at disproportionate cost. Some of the currently suggested solutions will require specialist treatment equipment such as membrane bio-reactors. We do not consider that very tight ammonia or Biological Oxygen Demand consents will be cost-effective solutions to achieve river quality standards, in view of the power and chemical costs involved. We will discuss this issue further with the Environment Agency before submission of the Final Business Plan.

We support further sewage treatment changes if justified by benefits to river quality relative to costs, and if this is the most cost-effective way of improving rivers. The additional power costs and resulting carbon impact need to be taken into account in this assessment. We have built carbon impacts into our own optimisation process.

Removal of phosphates from detergents and reducing run-off from agriculture should also make a contribution. In relation to some other substances, such as certain metals and endocrine disrupters, standards would be very costly or impossible to achieve through sewage treatment. Prevention of such substances entering the sewerage system, and therefore addressing the original source of pollution, is likely to be a more cost-effective and sustainable approach.

We are seeking to achieve Water Framework Directive objectives over three six-year cycles through to 2027. This will give the maximum opportunity to develop holistically cost-effective solutions, timed to coincide with schemes to maintain assets or increase capacity to meet demand. Discussions with the Environment Agency indicate that there is potential for very large numbers of obligations for future AMP cycles. This would lead to significant increases in bills, which would be unlikely to be supported by customers. We will continue discussions with the Environment Agency, but the future programme will also be dependent on national decisions. The programme to meet new standards is summarised below.

Meeting new sewage treatment standards – expenditure		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
UWWTD Phosphorous removal (50 sites)	166	4.6
UWWTD Flow compliance (59 sites)	44	0.5
Habitats and Freshwater Fisheries Directive (3 sites)	11	0.3
Groundwater Directive (22 obligations)	2	
Investigations (8 obligations) and Security and Emergency Measures Direction	1	
Sub total – improvements to meet existing directives	224	5.4
WFD – BOD and Ammonia reduction (23 sites)	34	0.3
WFD – Chemical investigation	5	
Sub total – improvements to meet Water Framework Directive	39	0.3
Total – additional sludge treatment	32	1.7
Total – Meeting new sewage treatment standards	295	7.4

Maintaining the sewer network

We consider that serviceability of the sewer network is stable although Ofwat has queried this. We are increasing work to identify asset failures before they cause pollution or flooding. We need to increase expenditure to deal with the problems which we are identifying.

We see the greatest number of problems, in terms of pollution or flooding, on our network of non-critical sewers. Until AMP4, our approach was to fix these on failure but in AMP4 we started a programme of CCTV surveys on non-critical sewers. This has allowed us to establish the condition of the network and target those areas where we are more likely to experience serviceability issues.

Our models show that we need to increase investment over the long run to maintain serviceability. As part of this investment we plan to increase investment in proactive sewer cleansing to improve our performance on flooding and pollution. Our modelling shows that investment in rising main replacement delivers a better return in terms of the reduction in pollution incidents than investment on gravity sewers.

Our programme provides for increased proactive investment in gravity sewers and rising mains, continuing to deal with reactive problems effectively, and maintaining investment in critical sewers to manage the risk of high consequence collapses.

The sewerage maintenance programme is summarised in the table below:

Maintaining the network – expenditure		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
Sewer diversions	6	
New development – sewerage	40	
New development – sewage treatment	61	1.4
Sub total – responding to regional development	**107**	**1.4**
Sewage treatment works	375	2.8
Sewerage pumping stations	99	0.2
Sludge treatment works	59	
Sewerage assets, transport and plant	31	
Sub total – maintaining our above ground assets	**564**	**3.0**
Rehabilitation of the critical sewer network	38	
Rehabilitation of sewer network (other)	125	-0.6
Rising mains	15	
Sub total – maintaining our sewerage network	**178**	**-0.6**
Total – Maintaining the network	**849**	**3.8**

Controlling pollution

As reported in the 2006/07 Ofwat Levels of Service report, we have one of the best records in the industry in terms of number of serious pollution incidents (Categories 1 and 2). However, the number of Category 3 pollution incidents showed an increase in 2005, and rose above the national average.

An action plan was agreed with the Environment Agency and Ofwat to reduce Category 3 pollution incidents, including 13 areas of improvement, with actions and performance measures identified for each area. The number of pollution incidents in 2007 was significantly down – 234 incidents compared with 293 in 2006. Adjusting for a change in reporting requirements, the number of incidents was reduced by 74.

We are targeting a further improvement in pollution incidents in AMP5, with a programme including:

- maintaining our sewer cleansing programme (increased in the last two years) to reduce pollution incidents caused by blockages and siltation
- reducing pollution incidents arising from sewer collapses by replacing or renovating sewers where the need is identified by our CCTV survey programme
- installing of telemetry at key sites
- making some progress with separating foul and surface water sewers
- increased resilience of our assets to reduce the risk of pollution problems.

Our proposed programme is summarised in the table below.

Controlling pollution – expenditure		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
Continuation of our network survey programme	37	
Sub total – network investigations	**37**	**0.0**
S101a first time rural sewerage connection	15	0.1
Investigations into misconnections onto our network	7	
Sub total – improvements in quality	**22**	**0.1**
Separation of foul and surface water network	10	
Separation of dual manholes	9	
Installation of telemetry/increased monitoring	8	
Sustainable drainage systems		1.7
Sub total – pollution strategy	**27**	**1.7**
Flood prevention and power supplies	10	
Sub total – resilience	**10**	**0.0**
Total – Controlling pollution	**96**	**1.9**

Dealing with problems of odour from sewage treatment works

Odour from sewage treatment works and from the sewerage system can have a detrimental impact on the quality of the environment for those living close by. Sewage treatment and sewerage systems will never be completely odour-free but our programme aims to reduce the potential for this to be a significant nuisance.

The costs of odour control need to be balanced against the benefits. There is a range of options available, with differing costs and impacts on odour. We have not adopted solutions which involve completely covering sewage treatment works and we do not believe that this is the most sustainable solution because of the impact on operating costs and energy use. Customers support reducing sewage odour, but not to the extent that very high-cost improvements would be justified.

We are implementing a programme of odour control measures at 35 works over the five years to 2009/10. We are proposing a 50% increase in the rate of dealing with problems in AMP5:

- addressing existing problems
- resolving new issues arising as a result of decreasing tolerance of sewage treatment odour
- resolution of new problems arising from new developments near treatment works.

Expenditure – dealing with problems of odour		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Total – dealing with problems of odour	10	0.0

Dealing with sewage sludge sustainably

Our sludge strategy is underpinned by the need to provide secure, sustainable routes for all sludge. Our strategy seeks to ensure that sludge management is cost-effective and efficient and is carried out without endangering human health, harming the environment or causing public nuisance. We have also been significantly increasing our electricity generation from sludge and are leaders in the industry in this area – this is discussed in KSI4.

Sludge recycling to agriculture is one of the top ten risks which we face, as the following constraints are making this recycling route more difficult and increasing unit costs:

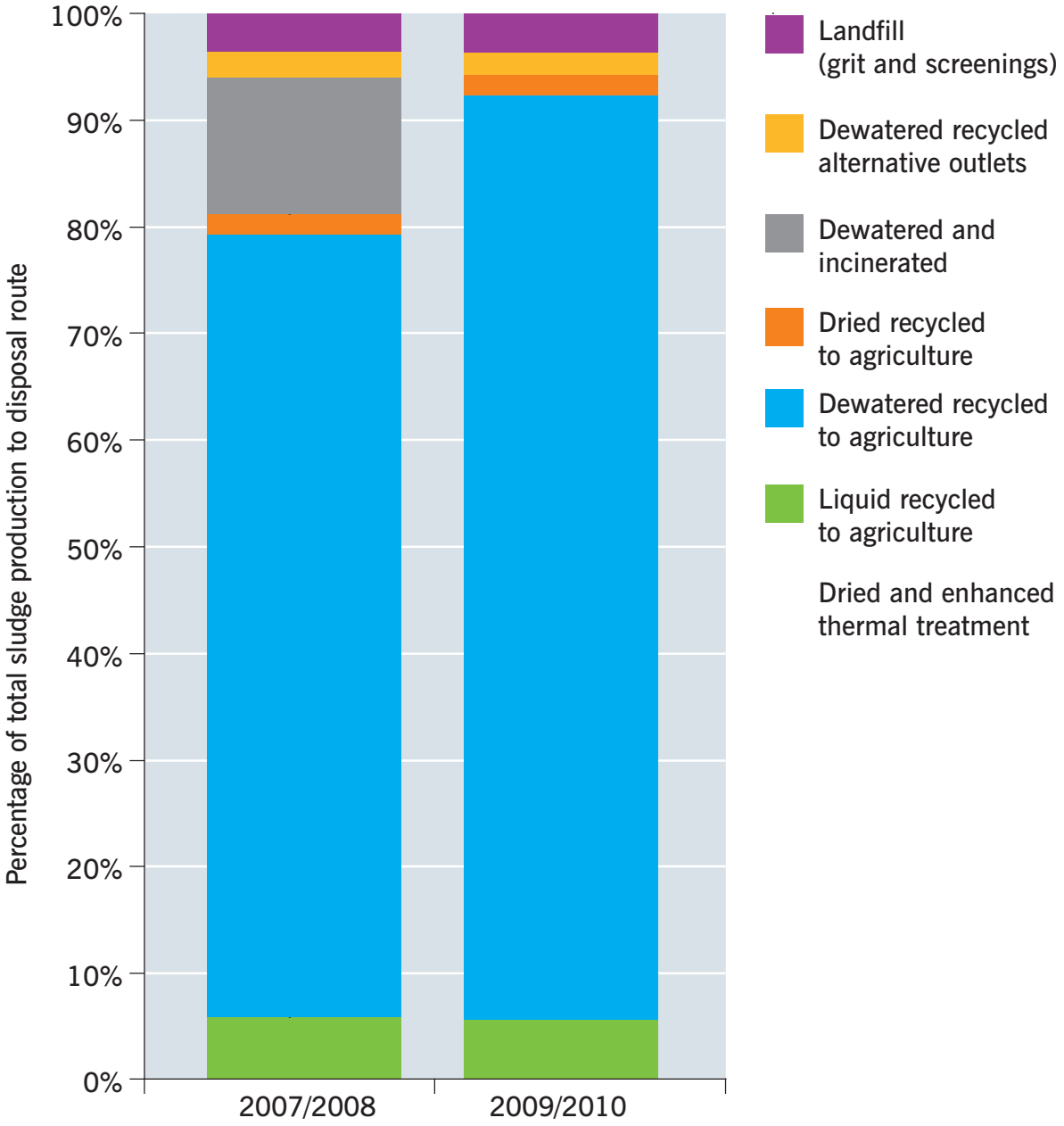
- increased regulation (The Nitrate Directive is increasing the area of land classified as Nitrate Vulnerable Zones and limiting the application rates of sludge and other manures), tightening microbiological and metals standards, and revision of the EU Sludge Directive (inclusion of additional limits such as those for organics)
- decreasing landbank availability and increasing competition with other manures
- negative perception in some sections of the food supply chain, with the risk of health related scares
- events such as foot and mouth and blue tongue limiting access to agricultural land
- odour and vehicle nuisance issues.

The likely outcome is a reduced reliance on recycling to agricultural land and increased sludge to energy capability. We are the industry leader in the use of biogas in Combined Heat and Power (CHP) engines with a renewable energy production of 157 GWh in 2007/08, 151 GWh of which was from Biogas. Our long-term goal is to use 100% of our sludge to generate energy by 2032, with a mixture of application to energy crops and thermal destruction with power generation. In the short term, our reliance in the agricultural route is increasing due to the closure of an incinerator, but we are investigating new technologies to reduce use of the agricultural route in future.

The AMP4 investment programme included the installation of sludge dryers at four sludge handling centres to increase both the range and quality of sludge product types on offer to customers for recycled sludge. Additionally a dried product offers more flexibility in outlet opportunities and mitigates risk associated with the agricultural route.

The following chart represents the existing sludge treatment routes (June Return 2008 data) and the forecast situation in 2010.

Severn Trent Water sludge treatment and disposal routes 2008 and 2010



A full-scale pilot sludge drying plant was commissioned in March 2006 and a further plant is under construction. The plant is the first of its kind in the UK and significantly larger scale than previous installations. The installation has not yet demonstrated optimum efficiency and throughput. We have, therefore, delayed the installation of sludge dryers at the remaining two sites until further R&D/optimisation trials on the pilot plant have been completed. We are committed to delivering sludge dryers as a precursor to securing a portfolio of cost-effective disposal options and more carbon-beneficial outlets. We recognise, however, that there is a need to spend time fully understanding, developing and optimising these emerging technologies.

The use of our two existing incinerators has been reviewed. Roundhill Incinerator was taken out of use in early 2007. Coleshill Incinerator will be 20 years old in AMP5. A detailed design to deliver a full refurbishment and convert the plant into a waste-to-energy facility has been completed. It is proposed that this will be undertaken as part of the AMP6 investment programme when further confidence in sludge drying technology is achieved. The decision has been made to take the site out of use, pending refurbishment. This is because of the excessive operational cost, high fuel input and the fact that, due to the general decline in heavy industry, all sludge we produce is currently compliant with the metals limits specified in the EU Sludge Directive.

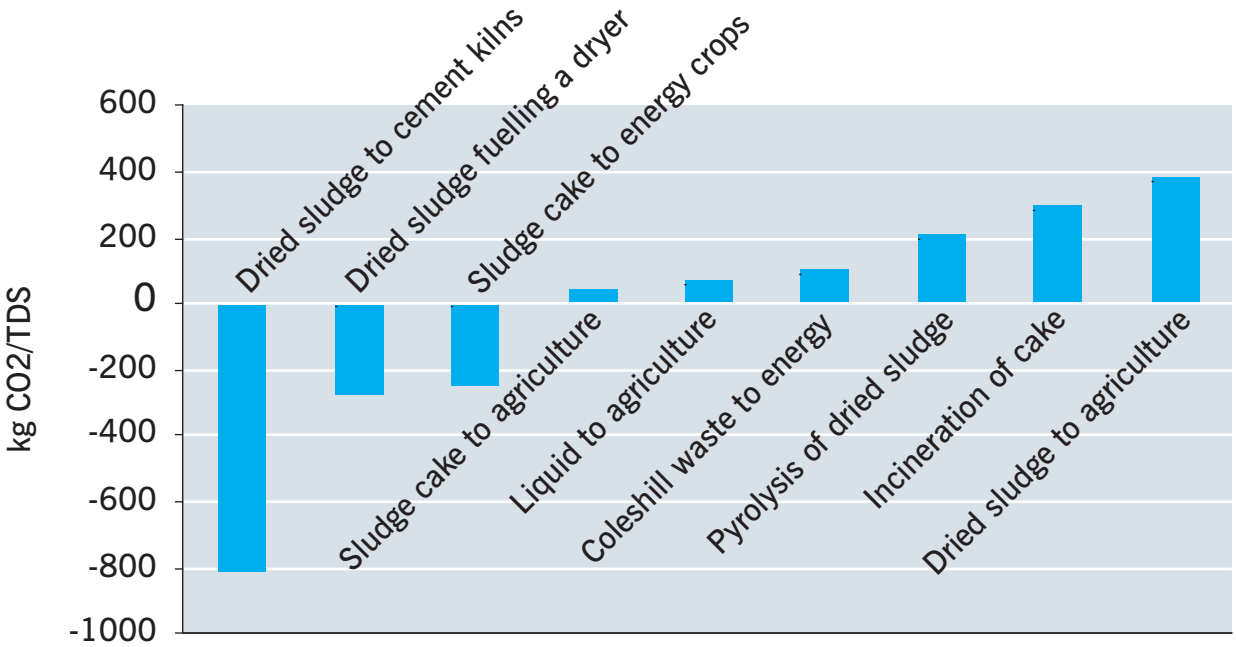
Option evaluation

We have conducted a high-level review of future treatment and outlets with particular focus on:

- cost-effectiveness
- environmental sustainability
- flexibility
- economic/business risk
- alignment with obligations – government policy, Codes of Practice, Nitrate Vulnerable Zone designations.

The carbon impacts of alternative routes are shown in the graph below.

Sludge disposal routes carbon impacts



We have pursued a number of large-scale R&D trials related to sludge treatment and disposal in AMP4. These schemes are still in the evaluation phase; this, and the current position of our sludge drying strategy, makes it difficult to determine a single preferred option at this stage. In the longer term, we wish to reduce reliance on recycling to agricultural land, particularly that associated with food crops, and increase sludge to energy capability. We believe that a dried sludge product is essential to provide flexibility of outlets and sustain a successful sludge to energy strategy; however, this is subject to confidence in an effective and efficient sludge drying technology. Consequently a prudent approach to the pace of change has been taken for AMP5.

Our strategy for AMP5 is:

- site rationalisation and optimisation – improving digester feed quality, investing in digester enhancement technologies and reducing the number of small digestion sites due to the high unit cost of operation
- reducing liquid to land recycling
- further R&D trials on sludge drying and enhanced thermal treatment
- increasing sludge treatment capacity to treat additional sludge arising from higher levels of sewage treatment.

Our strategy will involve most sludge still being recycled to agriculture in AMP5. Our proposals are designed to give us greater flexibility and enable us to reduce dependence on the agriculture route.

Expenditure – dealing with sewage sludge sustainably		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Sludge disposal route security investment strategies	16	-0.7
Installation of an additional sludge drier	11	0.3
Total – dealing with sewage sludge sustainably	27	-0.4

Expenditure summary

The total programme for dealing effectively with waste water is shown in the table below, which shows how the expenditure is split between Ofwat cost categories.

KSI 2 – Dealing effectively with waste water – expenditure								
Area of expenditure	Ofwat cost category							
	Capex (£m)				Opex (£m p.a.)			
	Maintenance	Quality	Supply Demand	Enhanced Service	Maintenance	Quality	Supply Demand	Enhanced Service
Dealing with sewer flooding problems			291				0.7	
Providing mitigation			19					
Total – dealing with sewer flooding	**310**				**0.7**			
Improvements to meet existing directives		224				5.4		
Improvements to meet Water Framework Directive		39				0.3		
Additional sludge treatment		32				1.7		
Total – meeting new sewage treatment standards	**295**				**7.4**			
Responding to regional development	6		101				1.4	
Maintaining our above ground assets	564				3.0			
Maintaining our sewerage network	178				-0.6			
Total – maintaining the network	**849**				**3.8**			
Network investigations (DAP/CCTV)	37							
Improvements in quality		22				0.2		
Pollution strategy	17		10				1.7	
Resilience				10				
Total – controlling pollution	**96**				**1.9**			
Dealing with problems of odour				10				
Total – dealing with problems of odour from sewage treatment works	**10**				**0.0**			
Sludge disposal route security investment strategies	16				-0.7			
Installation of an additional sludge drier	11				0.3			
Total – dealing with sewage sludge sustainably	**27**				**-0.4**			
Total by expenditure category	**829**	**317**	**421**	**20**	**2.0**	**7.6**	**3.8**	**0.0**
Overall total	**1,587**				**13.4**			

KSI 3

Responding to customers' needs

Our customers tell us that, in addition to providing the highest levels of water and waste services, they expect to see higher standards of service in relation to customer contact and billing issues.

The key challenges facing us are:

- rising customer expectations on service
- changes in ways which customers want to communicate with us
- customer contact performance has recently been below expectations
- retail competition is likely to develop and apply to all customers.

The key elements of our plan to address these challenges are:

- we are improving our quality and speed of response when customers contact us
- we are making improvements in the way in which we run our networks and billing systems to minimise the need for customers to contact us due to service failures
- when customers need to contact us to report an operational issue, we have made changes which will increase the number of problems resolved at the first visit
- we are increasing the range of channels for contact to meet customer needs.

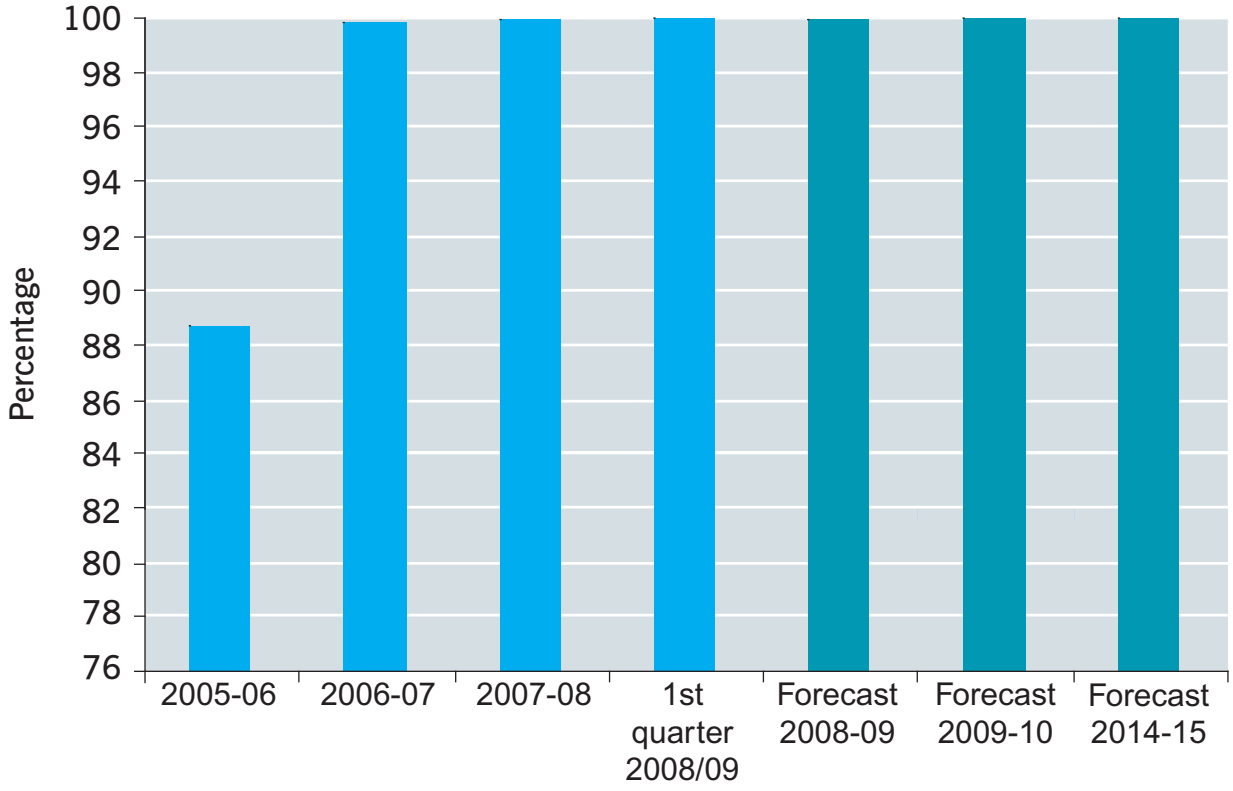
Getting customer contact performance right

The service we provide to our customers is at the forefront of our strategy but our performance on customer contact has not been acceptable. This has been linked with implementation of measures to ensure accurate reporting of performance and with the introduction of a new billing system. We have invested heavily in our call handling service and implemented new processes and controls – as a result, during 2007/08 our customer contact performance improved considerably:

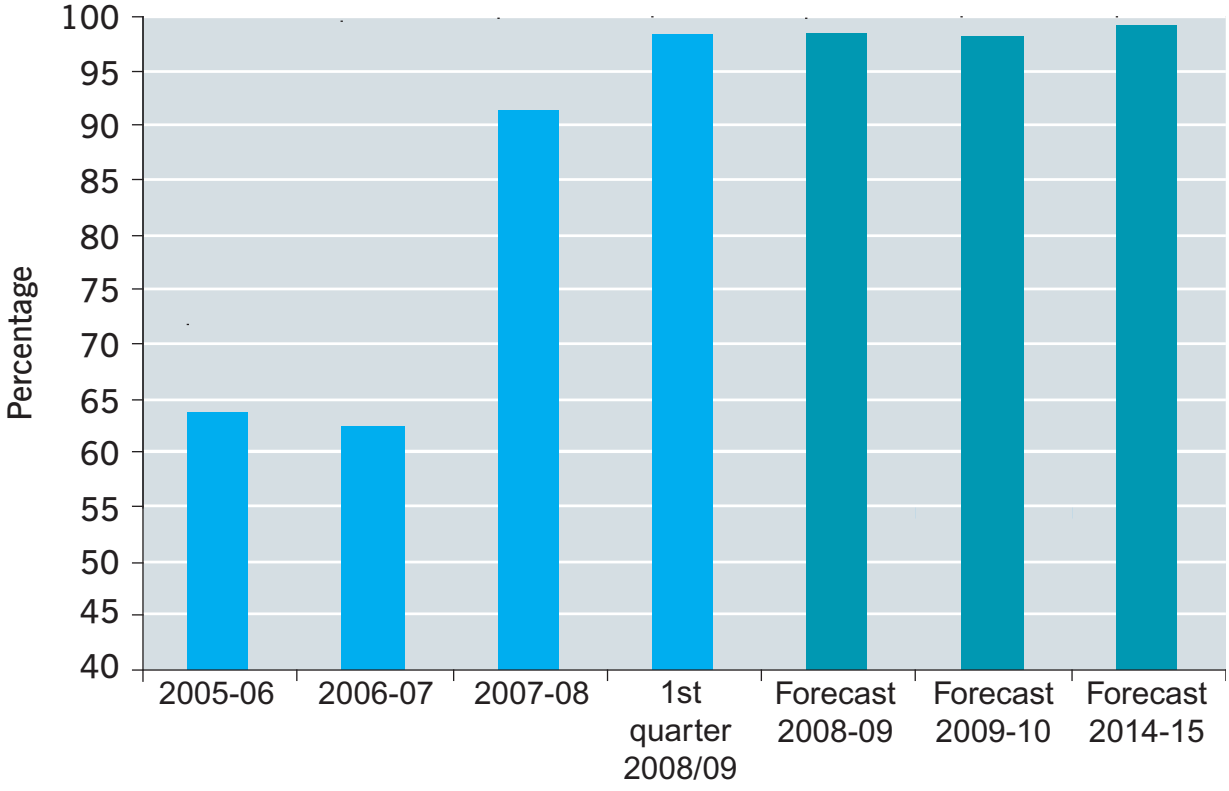
- the number of complaints received was down by a third to 45,710 from 68,874 in 2006/07
- the speed of responding to complaints and queries was much improved. Our DG6 performance increased to 90.7% from 62.9%, and our DG7 performance increased from 99.8% to 99.9%
- the proportion of calls abandoned reduced to 7.9% from 20.5%, and where all lines were busy reduced to 6.3% from 26.2%
- customer satisfaction with call handling increased to 4.39 (out of a maximum of 5).

The graphs on the following pages illustrate the extent of improvement.

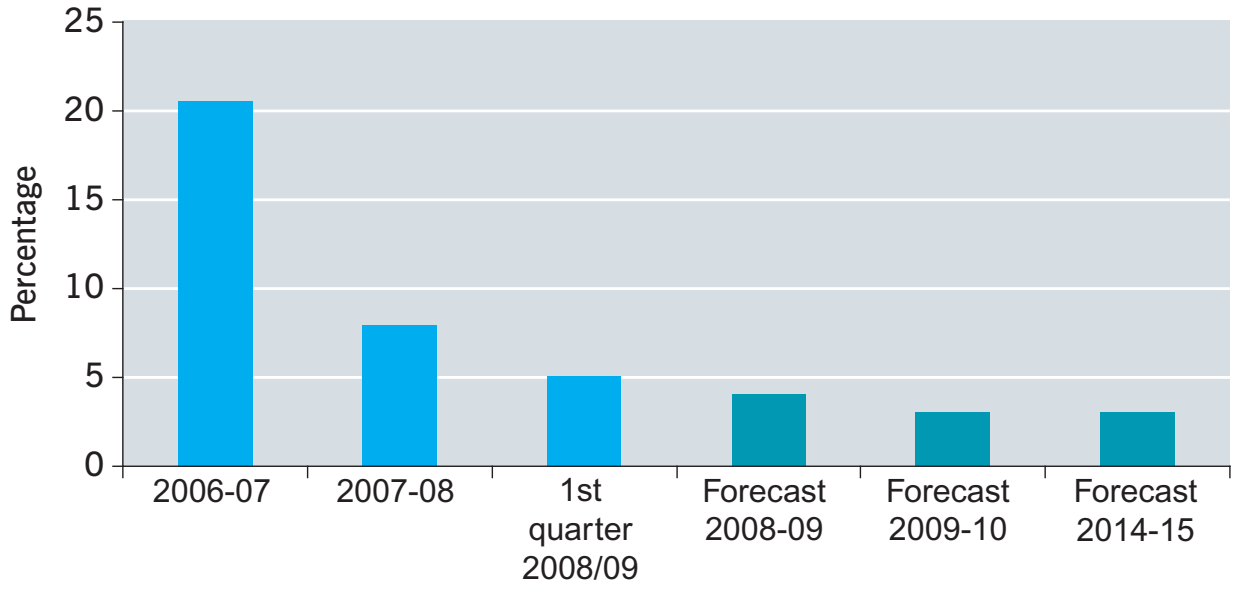
DG7 Written complaints answered within 10 days



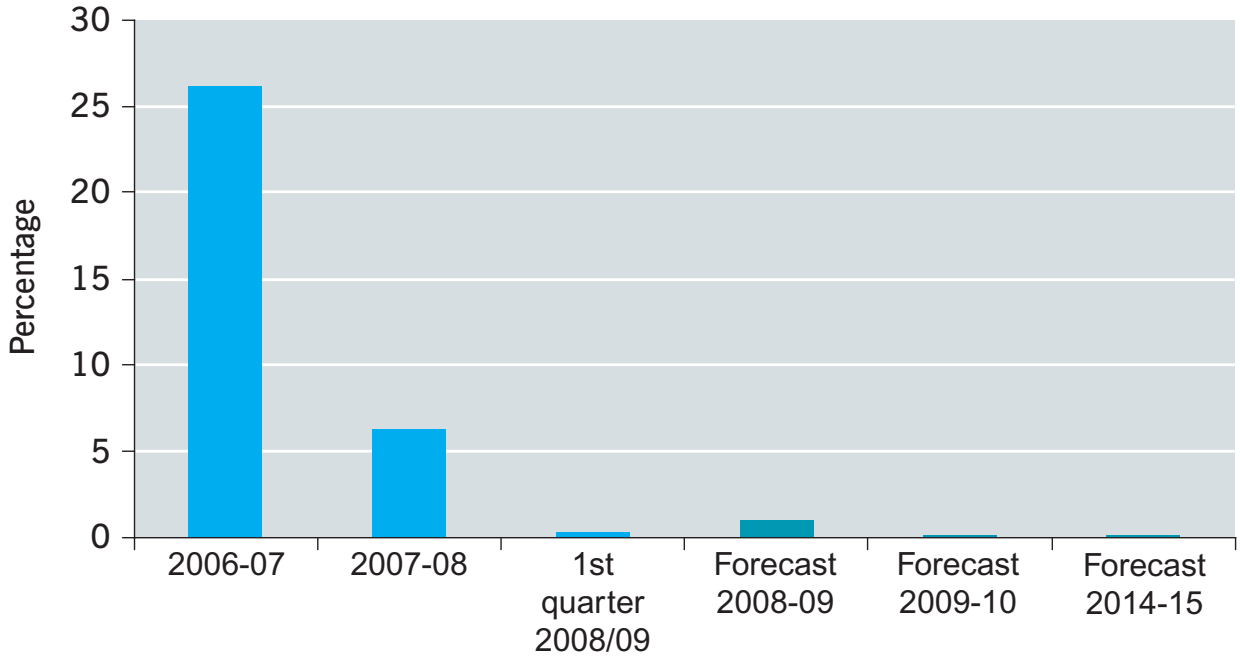
DG6 Billing contacts answered within 5 working days



DG9 Calls abandoned



DG9 All lines busy



The improved performance we saw through 2007/08, and which we expect to show further improvement into the future, has been the result of a number of business initiatives. These changes in the last year are in addition to the changes we have made to manage customer contact:

- better staff scheduling to ensure their availability to answer calls from customers
- increasing the number of telephone lines, which has virtually eliminated engaged calls
- reorganising some departments within the Customer Relations directorate, and linking our telephony network across contact centres. This has created a larger flexible pool of resource to be available for phone calls, reducing queues during peak demand.

Our initiatives are managed through a business improvement programme to ensure a co-ordinated approach is followed and we can track the benefits we are delivering to our customers now, and into AMP5. Current improvements include:
Improved point of contact resolution. A programme is underway to increase the skills of our front-line agents to improve point of contact resolution. This will reduce the need to pass the call into an activity queue for later resolution, which will reduce back office work.

Self-serve. Customers can contact us via mail, telephone, email and through our current self-serve options (e.g. our automated payment service). We are investing in web and voice self-serve solutions to increase the number of integrated transactions we are able to offer customers, and expect this to be live by early 2009.

Reducing operational failures and speeding up response times

We have created a root cause analysis team which is looking at the reasons why we receive written complaints, and are improving management information on the causes of contacts. Over time, this will enable us to reduce or eliminate the operational activities that affect customer contacts such as sending customers incorrect bills/reminders or shutting off supply.

We are changing operational customer service processes to deliver better service. This initially applied in Sewerage, with the key objectives to improve our speed of response to customer contact, increase productivity of our field teams, improve customer satisfaction and improve first time job resolution.

Response times to issues such as flooding, blockages and pollution are much improved – ranging from a 73% reduction for pollution incidents to a 97% reduction for internal sewer flooding. The improvements resulted from changes including improved scheduling of jobs, training and ensuring the right equipment is available to resolve the problem first time.

The following benefits are expected after extending the approach throughout our operations:

- reduced flooding numbers through a more accurate and speedier assessment process
- reduced written complaints through keeping customer promises and delivering service level agreements
- reduced abandonment of customer calls by reducing customer chase calls driven by not meeting promises
- reduced costs by increasing "Right 1st Time" volumes
- reduced leakage through correct prioritisation and reducing lead times.

Future improvements

Getting through first time. To enable us to better deal with the peak in contact, created by main billing and subsequent reminder periods, we are looking at outsourcing solutions for some back office activity which can be flexed during peak periods. This will release more of our staff to cover the phones at these times.

Measuring customer satisfaction. We are currently investigating asking customers for a customer satisfaction score after each call. This will enable us to quickly identify and resolve any customer satisfaction issues.

Customer segmentation. In the future we need to tailor the service we provide to different groups of customers making it more personalised. This will make services more effective and ultimately reduce costs. We have started a project looking at customer segmentation, initially concentrating on billing and meter read frequency and ways in which our customers wish to communicate with us. This will enable us to tailor billing and reading frequencies and communication with different customer groups.

Extending opening hours. Currently the Contact Centre is open from 8am to 8pm Monday to Friday and 8am to 1pm on Saturday; we are looking at options to improve the back-up process and therefore extend our opening hours.

Support to our customers

The effective collection of our charges will benefit all our customers by keeping bills low. We recognise that whilst the majority of our customers can afford to pay their water bill, there are customers who have trouble in settling their accounts. We provide support in a number of ways to help customers manage their accounts, and will continue to do so throughout AMP5.

Our customer support strategy is focused around speaking to our customers, finding out their particular circumstances and tailoring our debt management approach. Through this approach we will identify our most vulnerable customers, who will be offered a number of options:

- payment plan options – for customers who are unemployed, we are working with the Department of Work and Pensions to arrange an affordable deduction from their benefit payments
- help and support in customers' applications to the Severn Trent Trust Fund. We currently pay £3.5 million per year towards this fund
- making contact with the Citizens Advice Bureau for debt counselling and additional support. We are looking to fund a debt worker to provide additional resources.

For those customers who we identify as being able to pay, but choose not to, we will take a harder approach that will include taking them to Court to recover the outstanding debt.

In the current economic climate we will need to further refine our approach, so improvements we have planned include:

- the use of multi-media technology (such as text and automated voice messages) to help us keep in touch with our customers who need additional debt management support
- segmentation of our customer database to help identify our more vulnerable customers and so offer help earlier in our collection process
- an upgrade to our credit management systems to help us be more efficient.

Increasing efficiency and providing better service

In our Willingness to Pay survey we included a potential improvement in customer contact performance – our survey included potential improvement in calls getting through (not abandoned or line engaged) from 90% to 95% or 98%. We have not, however, used the results of the WTP survey in determining improvements as we are aiming to achieve improved performance without any impact on customers' bills. Our projected improvements will take us close to the top of the range of performance on which we consulted in the Willingness to Pay survey. Potential IT improvements include the upgrade of our billing system and the introduction of remote meter-reading technology. Expenditure on upgrading our systems is included in KSI 5.

We will deliver efficiency improvements by further streamlining our processes and procedures. We will improve our credit management processes by working closer with credit reference agencies and local authorities to share data, ensuring alignment of our recovery processes with best practice.

We will also review our use of third party service providers, increasing their use if they can provide the required level of service more efficiently. We have made use of third party Debt Collection agencies for several years. More recently elements of our back office activity have been outsourced overseas.

Our aim for the future is a Customer Relations organisation which has highly competent and motivated staff supported by excellent core systems, processes and third party service providers. Unnecessary customer contacts will be reduced to a minimum. Where customers do need to contact us, they will receive a prompt high-quality response using the communication channel of their choice.

The actions we have already taken will achieve a high standard against Ofwat's service measures by 2009/10. Our plans for AMP5 will enable us to make further progress in achieving our objectives of reducing the need for customer contact by reducing service failures, and offering a high speed of response and standard of service to those customers who do need to contact us. The improvements in customer contact performance will be achieved without any impact on customers' bills.

KSI 4

Minimising our carbon footprint

There is now widespread acceptance of the need to reduce carbon emissions. The Climate Change Bill incorporates targets to reduce carbon dioxide emissions by 26-32% by 2020, and by 60% by 2050. The water industry, as the industry with the fifth highest electricity use, will be expected to make a contribution to these targets and enter into Carbon Reduction Commitments.

The key challenges facing us are:

- we will need to make our contribution to reducing carbon dioxide emissions
- we could be faced with requirements to increase sewage treatment which will add to energy use.

The key elements of our plan to address these challenges are:

- additional electricity generation projects to maintain our leadership position in the sector
- measures to achieve significant efficiencies in energy use
- taking into account carbon impacts in assessing the case for further quality and environmental improvements.

We are in a strong position compared with the rest of the water sector on renewable energy generation, largely due to our Combined Heat and Power operating on biogas from sludge digestion. Our current annual electricity generation is 157 GWh per year (17% of annual usage) and it is largely utilised to supply our own operational sites. This self-supply of electricity not only reduces our carbon footprint but lowers operating costs and provides protection against the volatile energy market. To further this leadership position we are seeking to pursue opportunities to expand our renewable generation in AMP5.

In evaluating projects proposed for AMP5, we have taken into account the cost of carbon, as assessed by Defra. This has included the impact of changes in energy use and transport. We also commissioned a project for evaluating the "embodied" carbon in capital projects, e.g. the carbon involved in constructing a new treatment process.

Our proposed initiatives to generate renewable electricity in AMP5 are summarised below:

Digestion technologies – pilot projects

Two R&D trials are being undertaken in AMP4 to retrofit enhanced digestion technologies to increase biogas production at sludge treatment centres. Further sites have been identified for delivery in early AMP5.

Energy crops – digestion

A project has recently commenced to install digesters and CHP specifically for energy crops at Stoke Bardolph Farm by March 2010. If successful a further three sites are proposed in AMP5. This has been treated as non-appointed business.

Hydro-generation

The feasibility of expanding hydro-generation is currently being investigated at remote dam sites and large sewage treatment works outfalls.

Waste to energy

A detailed design has been developed to convert our existing incinerator into a waste to energy facility. It is proposed that this is pursued under our AMP6 sludge strategy. Gasification processes to generate electricity from sewage sludge are also being investigated with a view to pursuing a large scale R&D trial during AMP5. Our long term goal is to use 100% of our sludge to generate energy.

Wind turbines

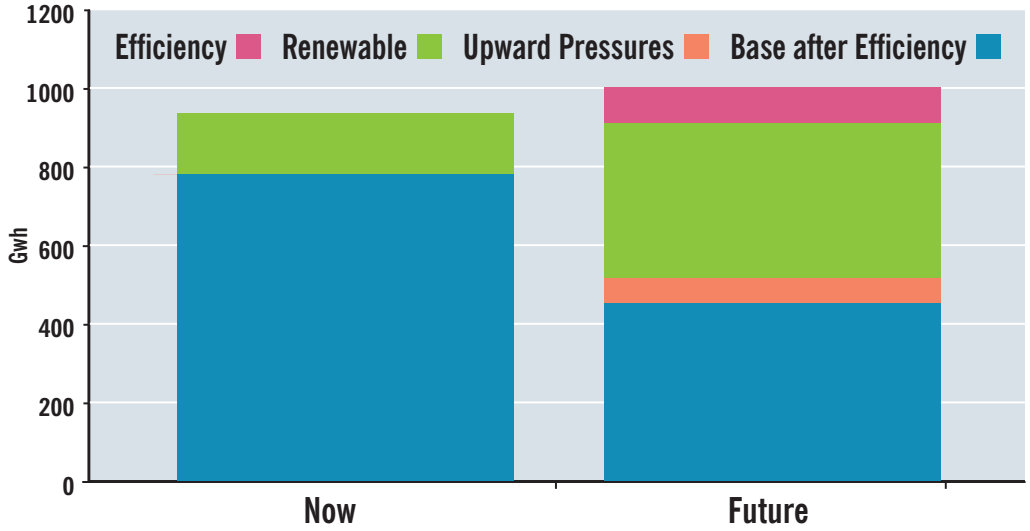
Detailed feasibility is being undertaken at 10 sites with the potential to install large wind turbines. Two sites are being progressed with a view to completion in AMP4. It is anticipated all large wind turbine investment will be undertaken as part of the non-appointed business and this expenditure is not included in this plan.

It is our objective to generate 30% of our electricity consumption from renewable sources by December 2012. £15 million capex is included in our plans to increase electricity generation, with over £1 million p.a. opex savings.

We will also reduce our carbon footprint through a programme of work to ensure delivery of a reduction in current energy use through Site Energy Management Plans. Initiatives include pump efficiency testing and refurbishment, variable speed drive pump replacement, production source optimisation and real-time pump optimisation and control.

As the graph below shows, there is scope for us to significantly reduce our net energy use (by about a third compared with current use), due to efficiency savings and additional generation.

Future electricity use



Projected expenditure on renewable energy generation within the appointed business is shown below. This has all been included within maintenance expenditure. The operating cost savings are included within KSI 5 – having the lowest possible charges.

Expenditure – minimising our carbon footprint		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Renewable energy generation	15	0.0

KSI 5

Having the lowest possible charges

Throughout the period since privatisation in 1989, bills for our customers have been amongst the lowest in the country and it is our objective to maintain this position.

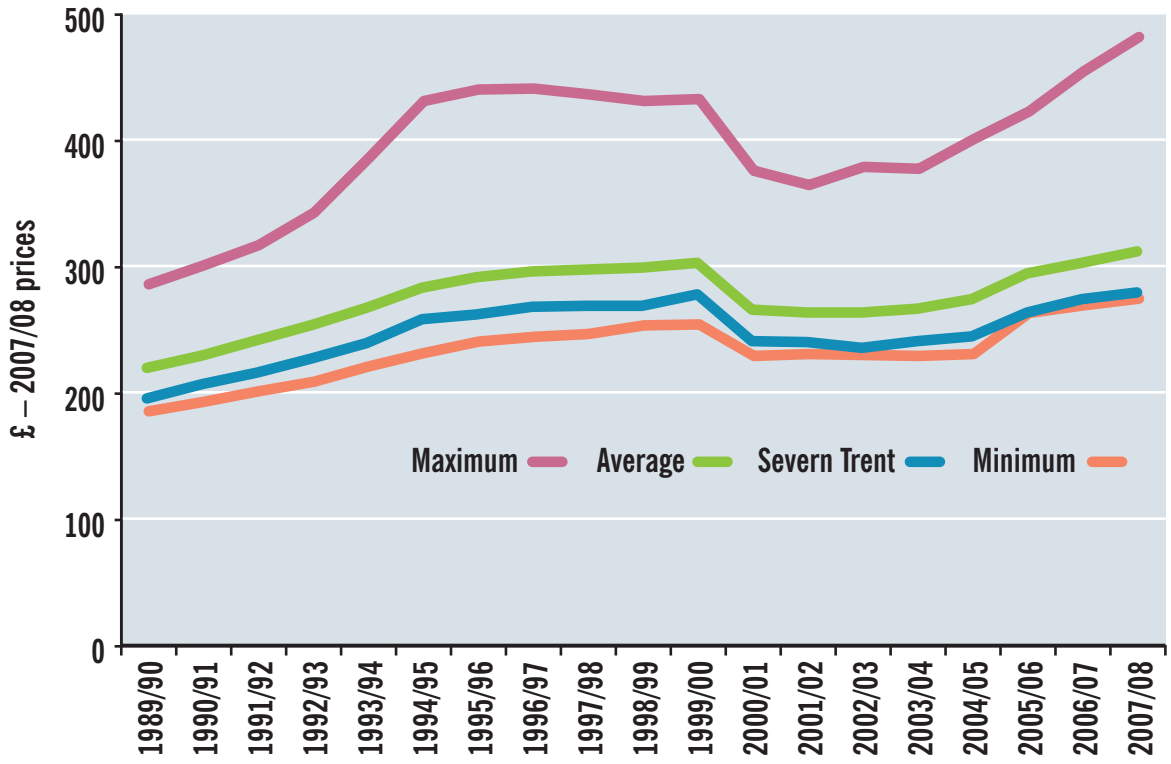
The key challenges facing us are:

- bills have been rising since privatisation and affordability is an issue for some customers
- service improvements will increase costs and bills
- existing cross-subsidies could come under pressure from competition
- rateable values are now 30 years old and becoming an increasingly outdated basis for charging unmeasured customers.

The key elements of our plan to address these challenges are:

- limit bill increases by ensuring improvements are supported by customers
- make continued improvements in efficiency to keep bills down
- ensure proposed service improvements take account of willingness to pay amongst low-income groups
- continue to increase metering
- develop payment options and continue to support our charitable trust which provides help to those in debt – to help the most needy and least able to pay
- make sure that those who can pay but won't are pursued effectively.

Comparison of household bills in England and Wales



Water bills have been rising since privatisation, as a result of major drinking water and environmental improvements. This has led to higher bills despite substantial improvements in efficiency. The average Severn Trent Water household bill is £147 for water and £145 for sewerage – or 80p per day.

Due to these increases in bills, water bills have been rising as a proportion of income. Therefore, in deciding on service improvements, we give attention to the extent of support amongst the lowest income groups who can least afford rising water bills

Developing our charges

Our objective is that all customers should be metered, as the only fair means of charging for the services which we provide. In addition to normal growth of metering through new properties being metered and customers taking up a meter option, we will be carrying out trials of installing meters on change of occupancy in a water-stressed area.

We recognise that there might be affordability consequences of extending metering which we will aim to address through developing tariff structures. We will review the assistance to be given to vulnerable customers before the Final Business Plan. In addition, where a meter cannot be fitted we intend to extend our assessed tariff, to give a discount for single person occupancy.

Keeping bills down by becoming more efficient

In order to keep bills down we will make improvements in efficiency. We are currently putting changes in place to take the complexity and costs out of our operation and improve quality of service at the same time.

We are planning a step change in our organisation in order to deliver higher standards and reduced costs. This change process has already begun, with some efficiencies projected to be delivered during the remaining two years of AMP4. Achieving our aims will require 'up front' capital and operating expenditure at the end of AMP4 and early AMP5. These costs have been incorporated in our plan.

Operating cost efficiencies

In order to deliver operating cost savings, we will need to incur initial spending on third party support, capital enablers and severance costs where appropriate. This will total approximately £39 million one-off operating costs (in addition to £7 million already incurred in 2007/08) with more than half of this included in the remainder of AMP4.

Key sources of future efficiency include:

- business transformation to reduce the complexity of processes and increase standardisation of working practices – accounting for about a quarter of the savings

- strategic accommodation review – this includes the consolidation of central Midlands offices, bringing together 1,700 staff on a single site, with significant operating cost reductions through reduced facilities costs, IT savings and productivity savings – accounting for about 10% of the savings
- enterprise Resource Planning – this will replace a high proportion of IT systems and will drive down operational costs of business and IT management, leading to improved process and service performance – accounting for about 3% of the savings
- reducing costs through improving our procurement strategy – accounting for about 25% of the savings.

In assessing our scope for efficiency, we have considered risk in terms of both delivery and potential upward pressures in the form of increasing input prices, additional costs of change and the impact of new legislation and obligations. We have therefore included 80% of our estimate of potential efficiencies from 2009/10 onwards, to provide some margin to reflect these inherent uncertainties. Our planned operating efficiencies are summarised below:

Operating costs - efficiency savings (£m)							
	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Target efficiency savings	17.1	32.1	56.3	67.8	73.4	78.4	82.9
Risk adjustment		-3.0	-7.8	-10.1	-11.3	-12.3	-13.2
Efficiency adjustment	**17.1**	**29.1**	**48.4**	**57.6**	**62.2**	**66.2**	**69.7**
Cost of change	-11.7	-11.6	-9.4	-5.1	-0.7	-0.3	-0.3
Net efficiency savings	**5.4**	**17.5**	**39.0**	**52.5**	**61.5**	**65.9**	**69.4**

These equate to around 2% p.a. average net efficiency over the six-year period from 2009/10, with change costs and efficiencies 'front end loaded' in order to maximise the benefits from our investments.

Capital efficiencies

Our capital efficiencies are based largely on the development of our AMP5 strategy, which involves improvement to our existing processes and the introduction of a new 'Design and Build' contract strategy.

The AMP5 contract strategy is intended to ensure that Severn Trent Water, Contractors, Consultants, Suppliers and Operational staff will work closely together, collaborating to eliminate waste (time and money). Greater emphasis will be placed on ensuring that requirements are clearly defined and communicated at all stages especially in respect of frameworks and standards. Communication, collaboration and processes will be enhanced.

In order to ensure a smooth transition to the new arrangements, the process of selection of new capital delivery contractors for AMP5 and beyond is well under way. Ten-year framework contracts are being considered. It is intended to begin design work on the projects for years one and two of AMP5 with our new contractors by March 2009.

It is widely accepted that the cyclical nature of water company capital investment leads to inefficiency and increases the risks to delivery of regulatory outputs. A recent UKWIR study estimated that longer-term planning could deliver capital efficiency savings of around 2.6% of capital turnover, by providing the time required for optimised staff utilisation, improved purchasing and greater innovation. In order to achieve these potential efficiency savings, we accelerated feasibility on a range of carefully selected capital projects. We currently have a programme containing around £1 billion of investment at various stages of development, with a corresponding feasibility budget of £40 million included in our AMP4 programme. This advanced programme will provide the planned capital projects required for the first two years of AMP5.

We have estimated an overall efficiency potential of 12.5% on current cost levels for the core contract expenditure programme (70% of the total), with savings achieved as a result of the new contract strategy and the "early start" programme. However, inflation in excess of RPI is a key risk, in particular the impact of rising oil, steel and aggregates prices. As we have done for opex efficiency, we have included an offset to recognise these potential cost increases. The 4% offset assumed produces a net saving of 8.5%.

For the remaining 30% of the programme, which includes expenditure outside our main framework suppliers, we have assumed reduced scope for efficiencies relative to the core contract expenditure. A number of specific cost saving measures have already been identified and a 5% level of efficiency has been applied. Our overall level of net efficiency applied to the AMP5 capital programme is therefore 7.3% (approximately £260 million).

In addition, we review options for our programme to ensure that we choose the most cost-effective solutions. We have identified that at 44 sites we can meet new sewage treatment standards without additional investment.

Expenditure – lowest possible charges		
Area of expenditure	**Capex (£m)**	**Opex (£m p.a.)**
IT	119	
Accommodation strategy	96	
Efficiency initiatives (Water)	15	-69.4
Efficiency initiatives (Waste Water)	23	
Total – initiatives to promote lowest possible charges	253	

KSI 6

Having the right skills to deliver

If we are to deliver the service improvements we are aiming for and improve efficiency, we need to have the right people and resources available to us. Key aspects of this are attracting and retaining the right skills among our employees and suppliers. We also play an important role in the provision of a vital public service to the communities we serve – this KSI reviews our role in the community, including our programme relating to Corporate Social Responsibility, as well as our skills and resources.

The key challenges facing us are:

- recruiting certain skills is forecast to become more difficult, particularly in the engineering and science areas
- our staff profile is unrepresentative of our customers and local communities
- a high proportion of the workforce is approaching retirement age – over 17% of the operational workforce is between the ages of 55 and 60
- there will be increasing competition for construction capacity for infrastructure projects
- future efficiency requirements and the need to improve customer service mean that it is essential employees have the right skills.

Our key strategic responses are:

- ensuring that Severn Trent Water is a company that people choose to work for and of which they are proud
- building a talented, diverse workforce with the right skills, experience and behaviours
- ensuring that we retain the right skills when we consolidate our central Midlands offices
- creating an environment where people want to work and can perform at their best, including giving a very high priority to health and safety
- championing skills development in the region and engaging with schools and colleges
- promoting the well-being of the Midlands for the benefit of our communities and for Severn Trent Water.

Key issues in our Draft Business Plan are:

- our plan includes further efficiency savings through changing processes and working practices, and investing in new systems. We will need to invest in training to ensure that we have the right skills for new ways of working. We are reviewing our current levels of skills and closing any gaps. If we are to reduce costs and improve service we need to create an environment where employees feel valued, resulting in them delivering great results through greater flexibility, reduced absenteeism and increased job satisfaction

- efficiency savings will be achieved by consolidation of central Midlands offices, bringing together 1,700 staff on a single site. In making the move, we will need to ensure that we retain key skills and experience, or train staff to take over from those who choose to leave.

We are a regional business which will increasingly need to compete for talent in key skills areas such as engineering and science-related disciplines, as well as in corporate roles such as finance. Recruiting certain skills will become more difficult, particularly in the engineering and science areas where fewer people are being trained, and the competition for those is likely to become national or even international. We need to broaden the pool of potential recruits, and we will benefit from having a staff profile which is representative of our customer base because staff will be better able to relate to the people they serve.

Of critical concern is the age profile of the existing workforce, particularly those involved in operational activities. Over 17% of the operational workforce are between the ages of 55 and 60. Skills shortages in the water industry include high level technicians, electricians, leakage control technicians and skilled operatives. During a period when we are aiming to reduce staff numbers but improve performance, it will be critical to ensure that we are able to attract and retain the right skills levels.

Our proposed actions are:

- recognising and valuing experience and knowledge within our workforce
- setting up a rolling resource planning system to forecast medium to long term needs
- championing skills development in the region and engaging with schools and colleges, encouraging young people to study relevant subjects and promoting the water industry to them
- becoming active in national skills development initiatives.

Health and safety

A key part of offering a high quality environment to our employees is giving a very high priority to health and safety. We intend to continue reducing the number of accidents. A comprehensive health and safety process review of all our water and waste water sites, commenced in 2006/07, was completed in 2007/08. Our expenditure programme includes measures to ensure we resolve any problems identified in this review.

High health and safety standards are important in terms of the personal impact of accidents on our employees. In addition, the skills and attention to detail which achieve higher safety standards are the same as those that achieve higher operational and environmental standards and productivity. Therefore, as our operations achieve higher safety standards, they will also achieve greater operational efficiency.

Community programmes

We provide a vital service to the communities in which we live and work. We are involved in our communities not only through our economic impact on our region but also through water education, preserving the natural environment and supporting local projects and employee volunteering.

Conservation, access, recreation and education are enjoyed at our public access sites by up to 3 million visitors a year. Our network of five custom-built education centres is visited by more than 20,000 children a year and we provide a range of education resources which link into the National Curriculum. Our plans include expenditure at our recreational sites to ensure that they continue to meet the needs of the community.

Expenditure – having the right skills to deliver		
Area of expenditure	Capex (£m)	Opex (£m p.a.)
Conservation, access and recreation	13	0.0

KSI 7

Maintaining investor confidence

Privatisation has enabled funding of a large investment programme over the last 18 years – about £10 billion in our case. Our plans show that there will be a continuing large capital programme to be financed.

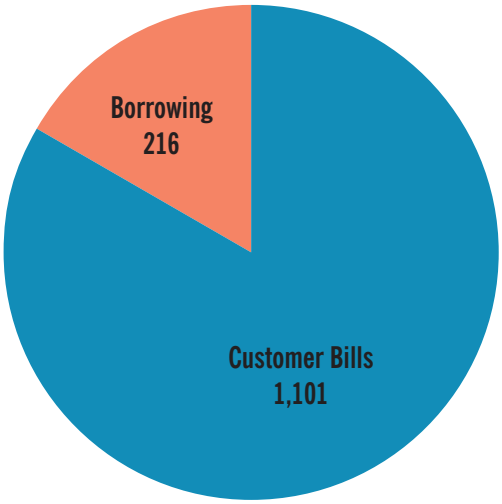
The key challenges facing us are:

- there will be a continuing large capital programme to be financed by additional borrowing
- investor confidence needs to be maintained so that finance can be obtained at reasonable cost
- we are vulnerable to significant changes in cost which cannot be financed in the short term by higher prices – particularly energy costs and interest rates
- financing costs need to be kept down to achieve the objective of minimising customer bills
- borrowing costs have increased in recent months as a result of changed financial market conditions
- increasing competition will mean that income is less predictable in future.

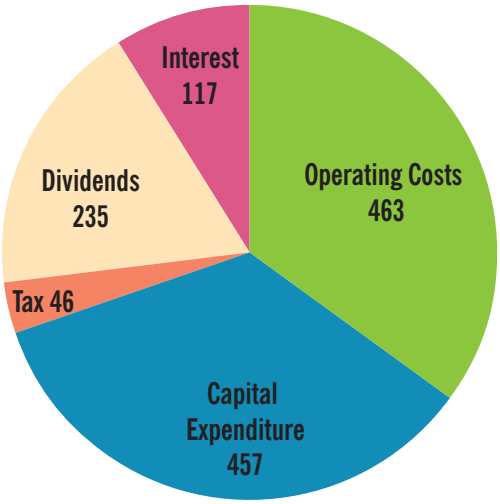
The key elements of our plan to address these challenges are:

- setting a cost of capital which ensures water remains attractive to investors in order to secure sufficient financing for our significant planned investment programme
- having a financial structure which can absorb the impact of business cycle changes and enables funding of a long-term investment plan
- providing long-term reasonable returns to equity investors
- setting a capital programme which can be financed on reasonable terms.

Where the money comes from



Where the money goes



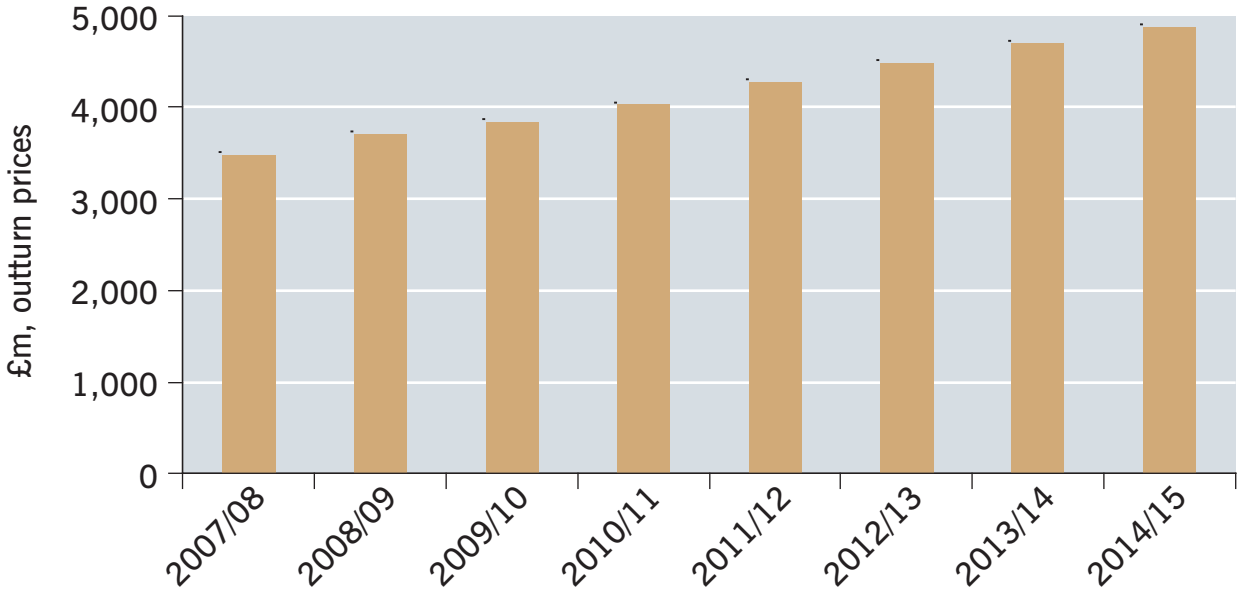
£m, 2007/08 prices
Average 1998/99 to 2006/07

Financing requirements

As the diagram opposite shows, there has been a large capital expenditure programme, which has required borrowing to finance it. This will continue in AMP5 – the projected capital programme is £3.2 billion (gross) compared with £2.8 billion in AMP4.

The increased borrowing required to finance the AMP5 capital programme is shown in the graph below.

Projected borrowing



We believe that long-term sustainability and the interests of our customers are best served by:

- maintaining a good credit rating, as assessed by rating agencies, which enables us to finance the capital programme on reasonable terms – we expect to borrow an additional £1 billion over the next five years
- having a financial structure which continues to include a significant component financed by shareholders, which increases ability to absorb changes in income or costs, compared with a company largely financed by borrowing.

In respect of corporation tax, recent government changes, in particular the retrospective abolition of Industrial Buildings Allowances, led to our estimated tax charge rising from 2007/08 levels, with an increase of around £70 million in total over the AMP5 period.

The cost of capital

Our projections are based on a cost of capital which we expect to be sufficient to maintain single A credit rating. Our projected financial structure includes a significant equity component (around 40% equity as a proportion of the Regulatory Capital Value).

There are significant risks in the plan, including:

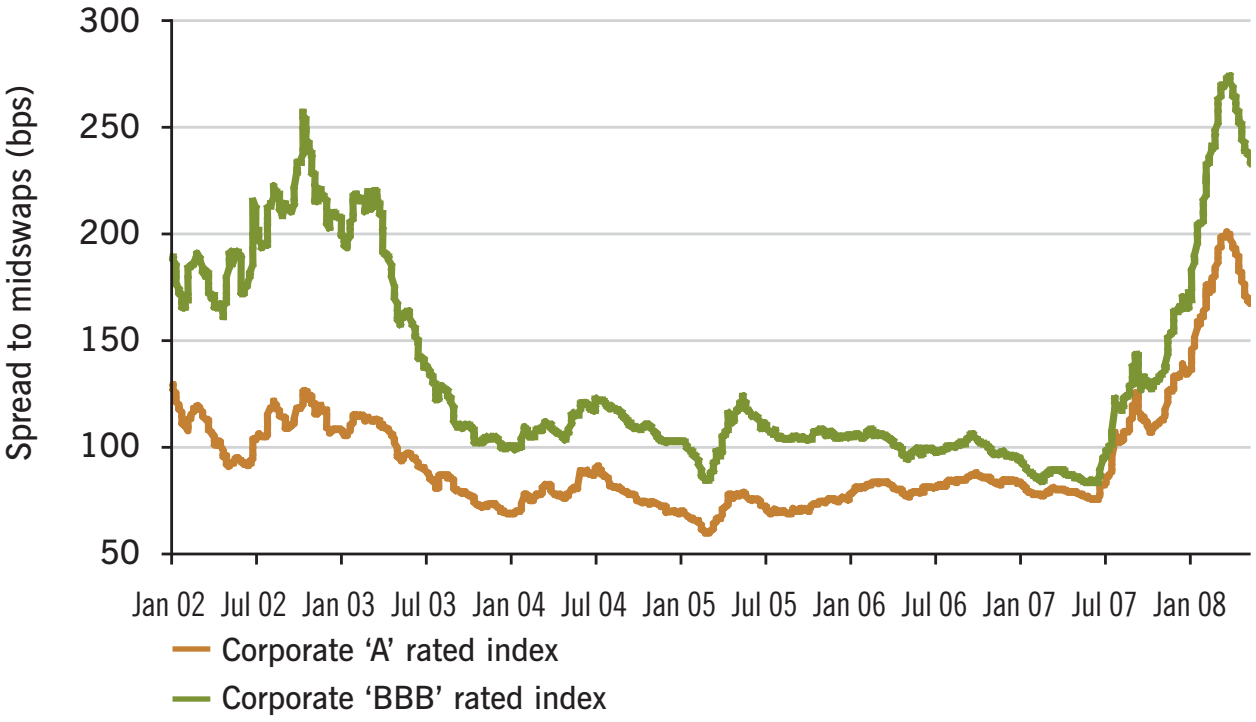
- potential further increases in energy costs and commodity prices – there have been very large increases over the last year
- the costs of the adoption of private sewers have not yet been taken into account, and these costs are highly uncertain
- the impact of competition on revenue is uncertain.

The financing plan is designed to achieve an appropriate balance between risk and return.

The Water UK/Ofwat Investor Survey shows that investors' perception of water industry risk has increased since the last price review. Given the scale of borrowing that is likely to be required, we believe that Ofwat should take a long-term view in estimating the cost of capital. The adverse consequences for consumers of overestimating the cost of capital are less than the consequences of underestimating it.

The debt markets have changed significantly since mid-2007. Investors are now more risk-averse, as shown in the graph below, which shows the increase in premium for company borrowing over the risk-free rate (the rate on gilt-edged government bonds).

Credit spreads for 'A' and 'BBB' rated debt Source: Barclays Bank



Taking into account the macro-economic uncertainties, the present cost of raising debt, and the large borrowing requirement of the next 25 years, we believe that a reasonable estimate of Severn Trent Water's cost of capital at this point lies between 4.7% and 5.3%, assuming gearing of 60%. For the purposes of the Draft Business Plan, we have assumed a cost of equity of 7.7%, consistent with that at PR04, a pre-tax cost of debt of 4.3%, and gearing of 60%. These figures lead to a weighted average cost of capital, assuming corporation tax at 28%, of 4.94% post-tax. Before we submit our Final Business Plan in April 2009, we will review our assumption for the cost of capital in the light of market conditions.

There is a link between the cost of capital and the capital programme. The cost of capital assumed in the price determination may affect our ability to raise the funds necessary to finance our capital programme. As such, we will need to consider at the appropriate time whether to adjust our programme in the light of the cost of capital which has been set.

Financial outcomes

Money will be raised in a variety of different debt markets, to mitigate the risk of funds not being available from individual markets at any time. We will also manage our debt to ensure that an average debt maturity in excess of 10 years (currently 20 years) is maintained and that there is no more than 30% of the debt maturing in any five-year period. We will continue to raise finance using a mixture of different types of debt.

Our plan ensures that key ratios remain within the parameters required for a single A/A2 credit rating:

Maximum gearing (Debt:RCV)	=	68%
Retained cash flow to net debt	=	10%
Minimum cash (FFO) interest cover	=	3.5x
Minimum adjusted cash (FFO) cover	=	1.8x

These parameters are consistent with the expectations of both debt and equity investors. In addition, we need to maintain a minimum level of EBIT interest cover of 2.0 to avoid defaulting or having to renegotiate (at higher cost) our funding from the European Investment Bank.

In order to maintain our key ratios within the parameters shown above, we have needed to assume a financeability adjustment of £13 million in the final year of the plan. We note that the cost to customers of the financeability adjustment is far less than the extra interest costs we would face if our credit rating was downgraded below its present level. We estimate that a single “notch” downgrade would add about 0.25% to our borrowing costs for the life of the additional debt, around £2 billion, which we need to finance up to 2014/15.

KSI 8

Promoting an effective regulatory regime

The regulatory regime for the water industry has played a major role in ensuring increased efficiency and service and environmental improvements over the last 15 years. We believe, however, that the framework needs to develop to respond to the new challenges facing the industry going forward in particular to encourage innovation and long-term sustainable solutions.

The key challenges facing us are:

- persuading our regulators of the need to change – to deal effectively with today's and the future agenda, which has changed significantly since privatisation – given the regulatory regime on the whole has performed well
- gaining the trust of our regulators given well-documented misreporting and performance issues we have faced in recent times
- there is increasing momentum behind development of competition in the water industry. New approaches need to be introduced.

Our key strategic responses are:

- preparing a draft business plan which we consider to be realistic and robust
- working to include in our final business plan proposals for development of competition
- continuing to work constructively with our regulators on ways in which the regulatory regime could be improved so that it works more effectively in customers' interests
- ensuring that our performance meets our regulators' expectations.

Competition

We support the extension of competition, by increasing the number of eligible customers and changing the competition framework. We will be responding to Ofwat's review of competition and making a contribution to the review commissioned by Defra.

In the Final Business Plan, we will be considering whether our investment programme can incorporate projects which will facilitate the expansion of strategic links with neighbouring companies, to promote competition. This would also assist in meeting imbalances of supply and demand, potentially reducing water shortages in the south-east of England, and may contribute to increasing supply resilience.

Developing the regulatory framework

The framework for economic regulation has:

- provided a major stimulus for significant improvements in efficiency
- driven service improvements through a comparative competition regime
- helped ensure investor confidence through ensuring investors earn a return on their investment.

There are, however, a number of limitations of the framework for economic regulation:

- it can encourage short-term efficiency savings at the potential cost of ensuring that vital infrastructure is maintained and improved to meet future requirements
- it provides incentives for meeting specific targets and carrying out defined activities, rather than providing best overall outcomes to customers and the environment
- the price setting process leads to over-estimation of costs by companies in preparing business plans, which are then subject to cut-backs by the regulator with the risk of the regulator "getting it wrong"
- an excessive regulatory burden in terms of the amount of information required by Ofwat. The scope for increased role for reporters should be reviewed.

We have supported the introduction of Strategic Direction Statements and the new Capital Incentive Scheme at this price review, as they encourage taking a long-term approach and accurate business planning. We will continue to work with Ofwat to develop the regime to ensure that it delivers the right outcomes for customers.

We believe that we have set out a balanced, optimised plan which:

- meets the needs of customers, in terms of level of bills and service improvements
- reflects the concerns of other key stakeholders
- will retain the confidence of investors and allow the proposed programme to be financed.

We will be refining our analysis before submitting the Final Business Plan. However, we do not expect this to significantly change the nature and scale of our proposals.

This draft plan will now be reviewed by Ofwat, before we produce our final plan in April 2009. In order that we can deliver our plans, we need Ofwat to:

- engage with us to understand the basis of our plan, and interrelationships between the different elements, so that there are no unjustified reductions made to the plan
- implement the new Capital Incentive Scheme in a way which ensures that we can finance our activities
- set a cost of capital which enables us to finance our functions with our chosen financial structure, i.e. a structure with a significant equity component
- consider whether financeability adjustments are necessary and whether a uniform gearing assumption should be applied across the industry
- give clarity on our compliance obligations and how the enforcement process will work, including how penalties will be set, in order that the risks of non-compliance can be understood.

Overall implications of our strategy

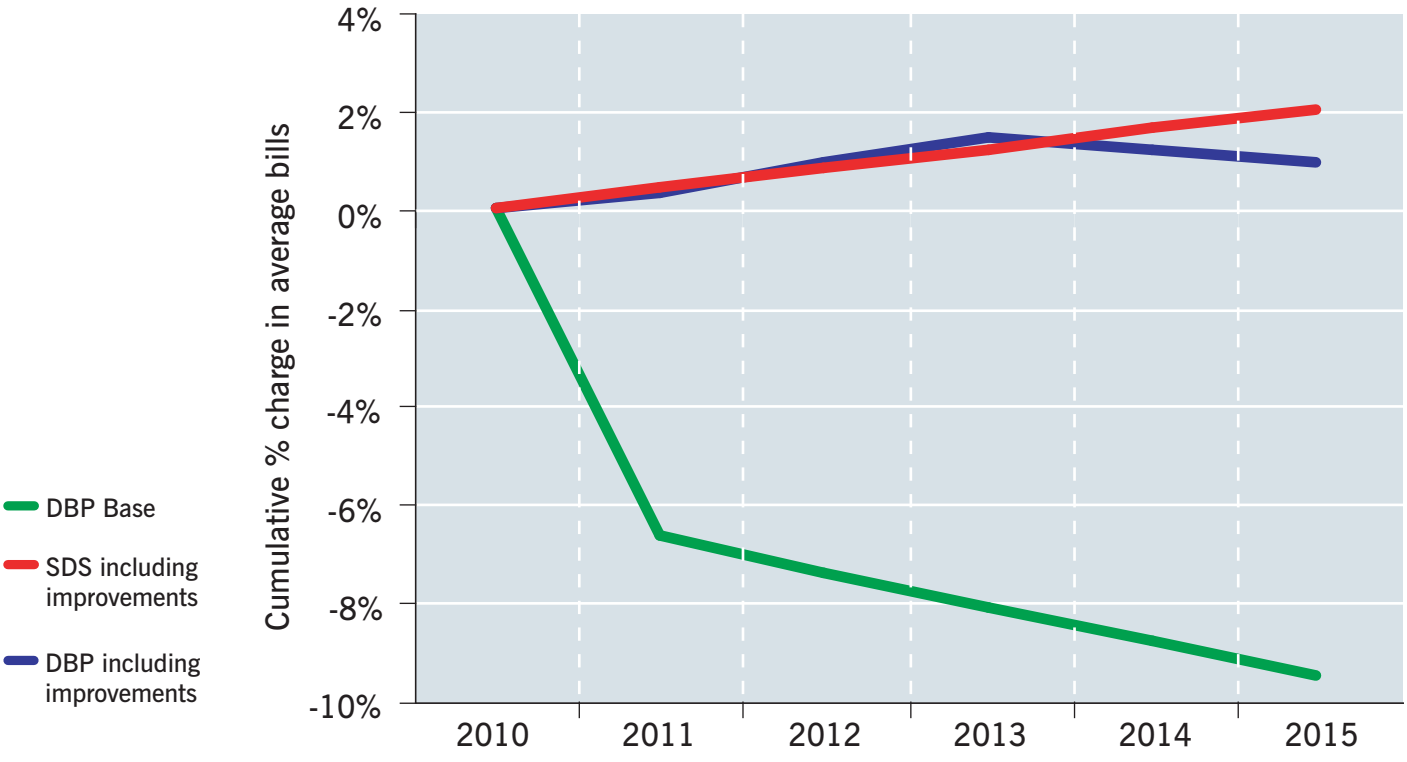
We are planning a range of service improvements but are only proposing an increase in bills of around 1% over 2009/10 levels.

This will be achieved as a result of efficiency savings and a lower cost of capital than at PR04.

Our proposed total capital expenditure is similar to that in the Strategic Direction Statement but higher than in AMP4.

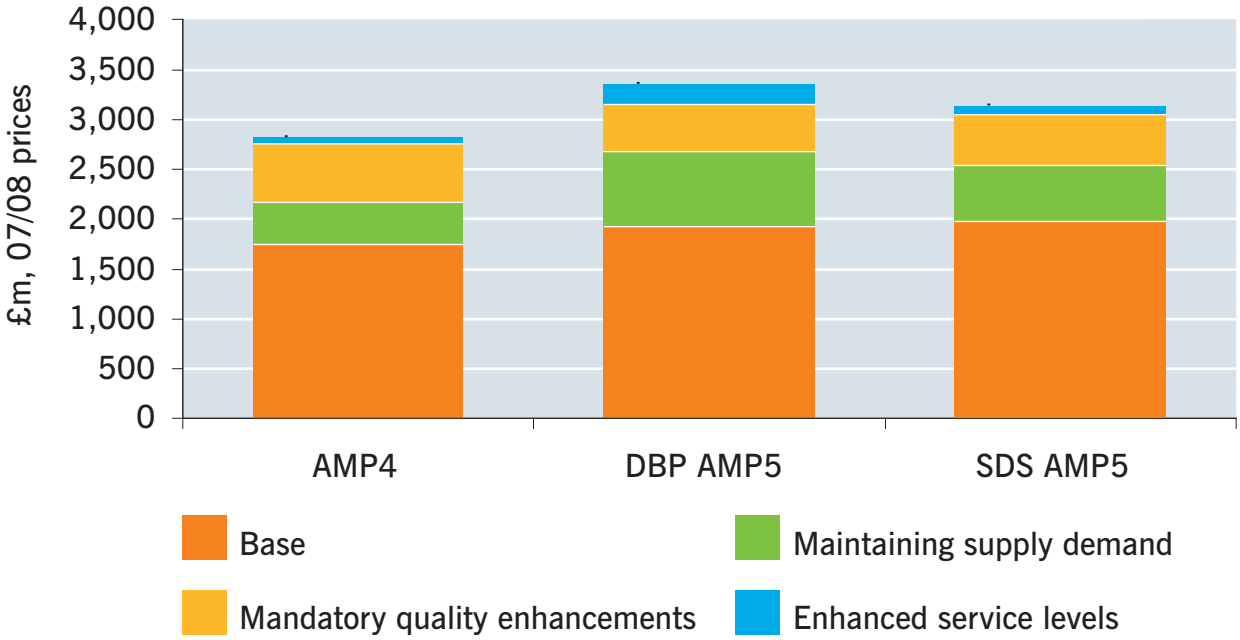
Our plans provide for bills to remain almost unchanged to 2015 in real terms, as shown in the graph below. Without any improvements, bills could fall by around 8%. However, with the programme of improvements in our plan, which we consider to be necessary and to be supported by customers, bills rise by around 1%, i.e. by 0.2% per year on average.

Trends in bills 2010-15 2007/08 prices



Trends in bills 2010-15						
	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Proposed price limits		-0.1%	1%	1%	0.3%	0.3%
Average household bills (07/08 prices)	289	290	292	293	293	292

Capital expenditure programme



The planned capital expenditure is above that in AMP4, primarily due to spending on:

- network resilience
- increased supply capacity
- reducing sewer flooding
- increased maintenance
- meeting new sewage treatment standards

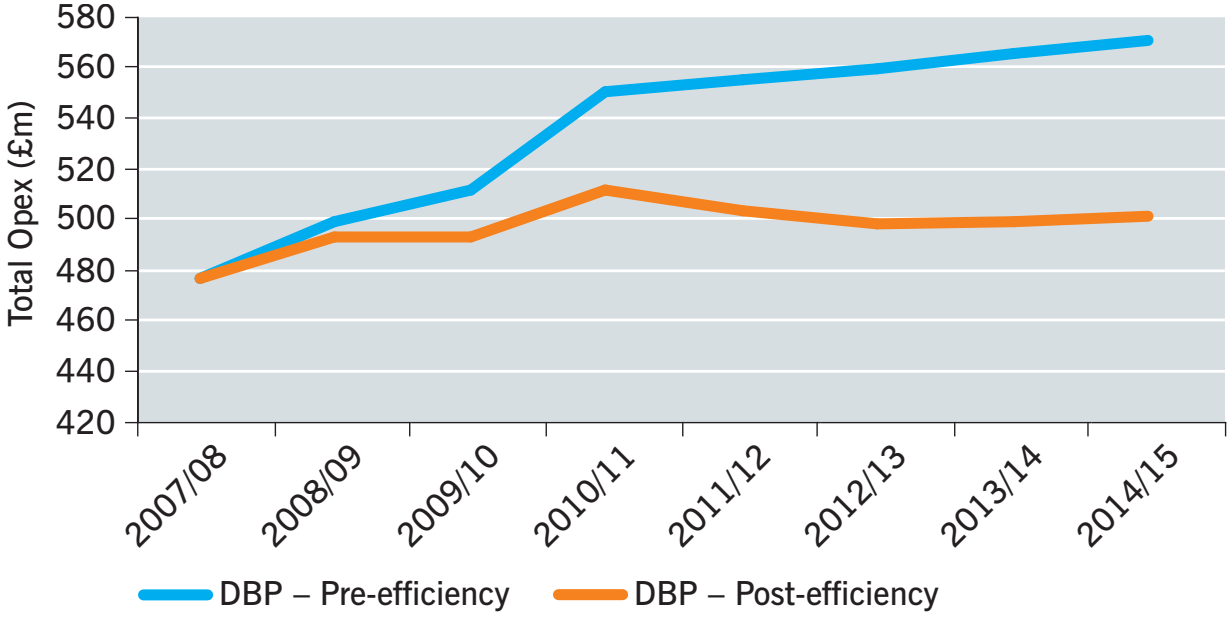
The table on the following page compares our current plan with the proposals in our Strategic Direction Statement. Upward pressures on bills from the Draft Business Plan investment programme are broadly consistent with the Strategic Direction Statement. Costs of maintaining current services are higher than in the Strategic Direction Statement, partly as a result of higher energy prices. However, our challenging efficiency targets offset this.

More rapid progress is proposed on some measures, e.g. increasing supply capacity, where the immediate need for additional water is greater than expected when the Strategic Direction Statement was being prepared. Other upward pressures have yet to materialise – in particular, Ofwat has required us to exclude private sewer adoption until requirements become clear.

After allowing for efficiency savings, operating costs are predicted to remain broadly stable. Cost increases are largely driven by increased electricity costs, Traffic Management Act and enhancement expenditure resulting from capital schemes.

		SDS (2015)	DBP (2015)	Change	SDS (2035)
Opening (09/10)	Average bill	£289	£289	£0	£289
Water	Maintaining services	£3	£6	+£3	£9
	Network resilience	£3	£5	+£2	£15
	Increased supply capacity	£2	£3	+£1	£9
	Supply pipe adoption	£0	£0	£0	£8
	Reducing leakage	£1	£2	+£1	£5
	Water quality	£1	£3	+£2	£3
	Metering	£1	£2	+£1	£3
	Water efficiency	£0	£1	+£1	£1
	Impact of investment	**£11**	**£22**	**+£11**	**£53**
Sewerage	Maintaining services	£3	£6	+£3	£9
	Improved treatment	£8	£8	£0	£14
	Adopting private sewers	£5	£0	-£5	£10
	Reducing sewer flooding	£2	£3	+£1	£5
	Reducing pollution	£1	£1	£0	£4
	Reducing odour	£0	£0	£0	£1
	Dealing with sludge	£1	£2	+£1	£1
	Impact of investment	**£20**	**£20**	**£0**	**£44**
Other effects	Loss of financeability revenue	-£4	-£4	£0	-£4
	Reduction in cost of capital	-£5	-£2	+£3	-£5
	Improvements in efficiency	-£12	-£24	-£12	-£12
	Other changes in revenue	-£6	-£9	-£3	£3
	Impact of other effects	-£27	-£39	-£12	-£18
Final bill		**£293**	**£292**	**-£1**	**£368**

DBP Opex – post-efficiency and pre-efficiency



Target improvements in service levels are shown below – we expect to achieve significant improvements:

Ofwat service measure		07/08	09/10	14/15
Security of Supply Index		95	97	100
DG2 – at risk of low water pressure	No. of properties	1,546	1,100	1,100
DG3 – number of interruptions to supply	Ofwat performance measure	18.4	0.7	0.2
DG5 – internal sewer flooding	Number of properties flooded	938	850	784
DG6 – billing contacts answered within 5 days	%	90.7%	98.5%	99%
DG7 – complaints answered within 10 days	%	99.9%	99.98%	99.98%
DG8 – bills based on actual meter reading	%	99.6%	99.95%	99.95%
DG9 – phone calls not engaged	%	93.7%	99.8%	99.8%
DG9 – phone calls not abandoned	%	92.1%	97%	97%
DG9 – customer satisfaction	Score	4.39	4.5	4.5

Borrowing will increase by around £1 billion from 2008 to 2015. Gearing will be stable at around 60%. Financial performance is assessed to be sufficient to maintain an A-grade credit rating. There are significant risks in the plan, including great uncertainty about future energy prices, and the financing plan is designed to achieve an appropriate balance between risk and return.

We believe that we have set out a robust, optimised plan which:

- meets the needs of customers, in terms of level of bills and service improvements
- reflects the concerns of other key stakeholders
- will retain the confidence of investors and allow the proposed programme to be financed.

Next steps

We will continue to involve stakeholders as we develop our Final Business Plan. We welcome comments which should be sent to:

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Director of Regulation and Competition
Severn Trent Water Ltd
2297 Coventry Road
Birmingham B26 3PU
Email: Tony.Ballance@severntrent.co.uk

Call 08457 500 500 or
Textphone 0800 328 1155

Our Final Business Plan will be a development of this draft plan, with a number of refinements planned including:

- carrying out further market research on customer priorities to ensure that we have fully captured what they consider to be important
- work on tariffs for vulnerable customers
- further analysis of maintenance expenditure needs
- reviewing latest income trends
- working with the Environment Agency to review the environmental programme, to establish whether all measures are necessary to achieve required improvement to river standards.

There are a number of key external factors affecting our plan where the current situation is volatile and the position may be clearer by the time of the Final Business Plan, including:

- influences on operating costs, particularly:
  - energy and other commodity prices
  - the costs arising from legal changes (including the Traffic Management Act)
- influences on financing costs, in particular interest costs – the cost of borrowing and availability and source of funds
- future tax liabilities, e.g. the evaluation and implementation experience of new tax laws affecting water companies – such as the abolition of Industrial Building Allowances.

We will monitor movements in these factors and adapt our Final Business Plan accordingly. We will, however, ensure that we have a balanced plan which will meet the needs of customers and other stakeholders.

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