



# Strategic Direction Statement



Delivering **Pure**Water **Pure**Service and a **Pure**Environment

December 2007

# Strategic Direction Statement

Delivering **Pure**Water **Pure**Service and a **Pure**Environment

This document sets out South West Water's long term aspirations for the services we provide. We are looking for feedback on our plans. The purpose of this Strategic Direction Statement is to set out our vision, so that the 2009 Periodic Review (PR09) process can be seen in context.

We are particularly interested in hearing whether you share our vision and support our strategy for the future. There is a PR09 feedback area on our web site at [www.southwestwater.co.uk/PR09](http://www.southwestwater.co.uk/PR09) for those who have internet access. For those who would prefer to make written comments, please send them to:

PR09 Feedback  
Freepost 186  
South West Water  
Peninsula House  
Rydon Lane  
Exeter EX2 7BF

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or email: [PR09@southwestwater.co.uk](mailto:PR09@southwestwater.co.uk)

Our Strategic Direction Statement is also supported by a specific customer consultation document "Delivering Pure Water, Pure Service and a Pure Environment".

We have also produced a document "The New South West – Clean Sweep and Beyond" which assesses the impact of the investment we have made over the last 18 years and the benefits it has brought to the region.

Both documents are available to all customers on request. Copies have been sent to key stakeholders and placed in libraries. They are also available on our web site.



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# Executive summary

## 1. Executive summary

### 1.1 South West Water – Our achievements and the next 25 years

We have delivered many major improvements to the region's water and sewerage services over the past 18 years:

- The Clean Sweep programme to transform coastal and estuarine water quality.
- Improved drinking water quality through our extensive mains rehabilitation programme.
- Dramatically reducing leakage from water pipes.
- Improving our ability to move water around the region and avoid drinking water restrictions for more than ten years.
- Service Plus, a process improvement, combining customer service and operational technical expertise to deal with customer issues in a timely and efficient way.
- WaterCare, a new company financed initiative that deals sensitively with affordability and customer debt, through a combination of free water efficiency measures, benefit checks and financial advice.
- We are currently investing in new workflow systems to further improve customer service and ease of contact.

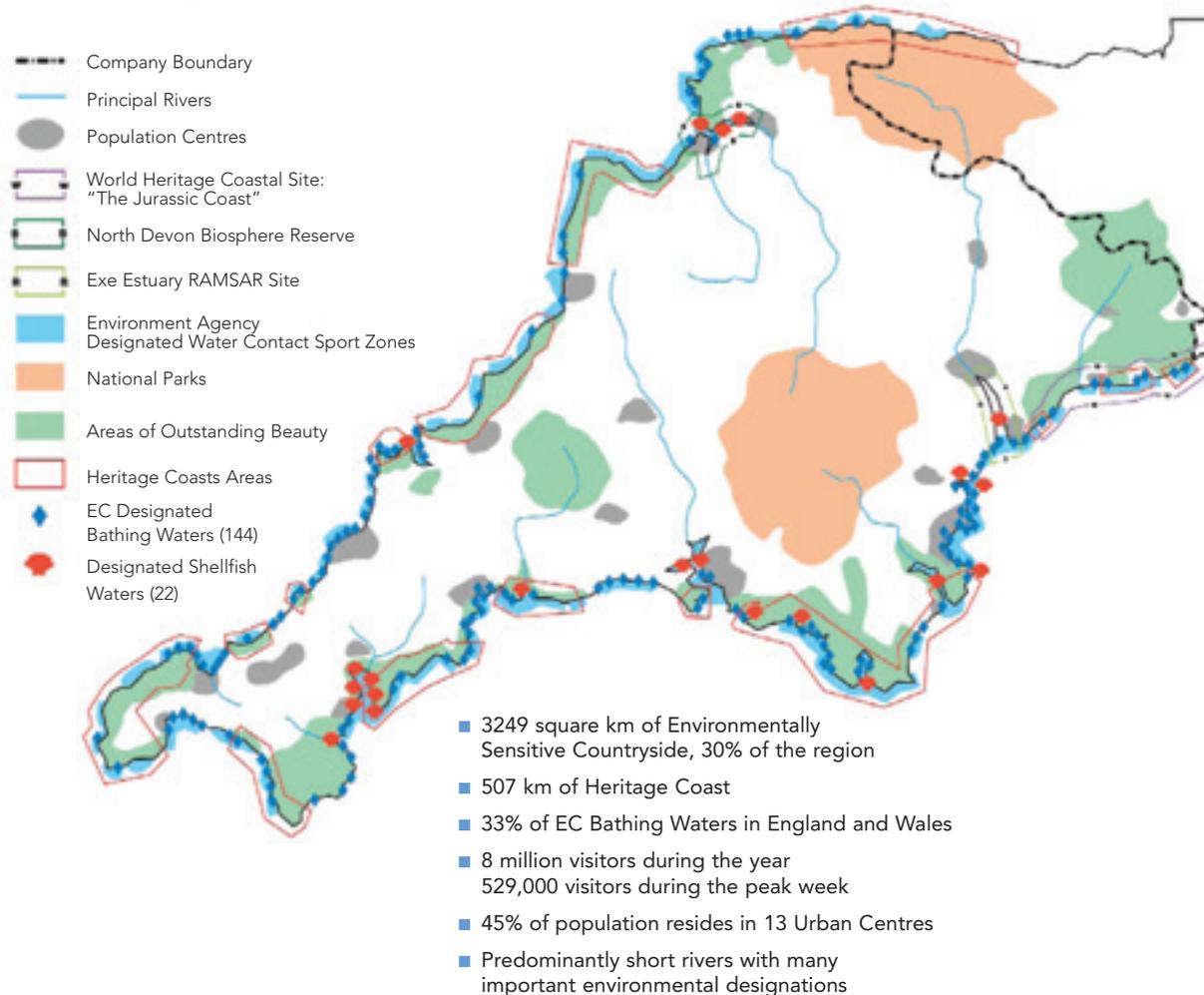
We have also invested in our systems and people. Since 2000, in our drive for quality and excellence, we have achieved accreditation for key aspects of our operations.



# Executive summary

South West Water operates in a unique regional environment and our customers enjoy amongst the highest quality river water and bathing waters in Europe.

## South West Environmental Context



Despite recent years with some successive dry winters, warm sunny springs and hot dry summers, we have avoided inconvenient water restrictions such as hosepipe bans and drought orders for more than ten years.

## Fact File

### Our Region:

- Approximately 10,300 square kilometres.
- 1.65 million residents.
- Approximately 8 million visitors a year.
- We distribute over 440 million litres of treated water a day.
- We dispose of around 250 million litres of waste water each day.
- There are 625 miles of superb coastline.
- 144 designated bathing waters.
- 22 designated shellfish waters.

### Our assets include:

- 15,000 km of distribution mains.
- 9,100 km of sewers.
- 16 impounding reservoirs.
- 39 water treatment works.
- 623 waste water treatment works, including 52 works with ultra violet disinfection treatment and two with membrane filtration.
- 1,030 combined sewer overflows.
- 1,000 water and sewage pumping stations.

# Executive summary

South West Water has come a long way since its creation in 1989 and the improvements in our services are clear:

	1995	2006
Overall customer satisfaction with services <sup>1</sup>	49%	72%
Drinking water compliance <sup>2</sup>	99.56%	99.96%
Waste water treatment works compliant with standards <sup>3</sup>	76%	95.8%
Leakage <sup>4</sup>	140 MI/day	84 MI/day
Properties at risk of being flooded with sewage <sup>4</sup>	0.081%	0.016%
Domestic customers on a metered supply <sup>4</sup>	7.1%	53%

Our plans for the next 25 years seek to build on this strong platform by further improving customer service, raising the quality and reliability of drinking water still further and reducing incidents of sewer flooding that can affect customers' properties and the wider environment.

## 1.2 Our vision for the future and our challenges

We are aiming to achieve our vision of delivering

### **PureWater PureService and a PureEnvironment**

Our Strategic Direction Statement sets out our aspirations and outlines some of the challenges we face in pursuing this vision over the next 25 years.

Customers have told us in no uncertain terms that the very least they expect from us, whatever the implications of climate change, is a supply of water that they can use without worrying about its quality or reliability<sup>5</sup>. Neither do they want the environment to be damaged by our activities. At the same time, they are concerned about the level of bills.

We believe that prices for our services should be as stable as possible for the 2010–2015 period. To support this aspiration, we aim to minimise the impact of inflationary cost pressures on customers' bills, by being as efficient as possible. Where we face new requirements, we will challenge them if we do not believe that they represent good value for money.

Water is a precious resource and we want customers to appreciate its value. Therefore, we would not want to see price cuts in one period only for this to be followed by price increases in another.

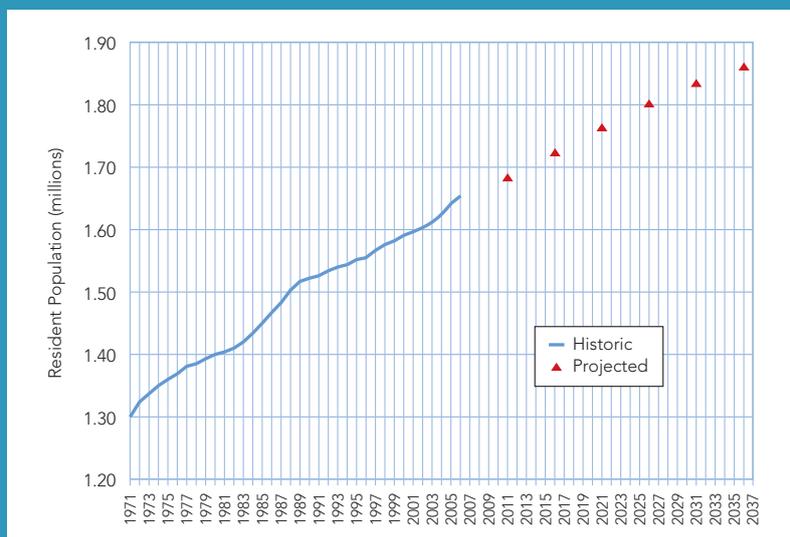
We believe that the approach which will deliver the greatest long term benefit to our customers is one characterised by stable prices in real terms. Sometimes this will require risks to be mitigated by innovative investment to find better and cheaper ways to do things in the future. We will test the acceptability of limited price rises if there are options that both stakeholders and customers will support.

# Executive summary

The challenges for South West Water in pursuing our vision include:

- Keeping bills as stable as possible.
- Exceeding the customer service expectations of our diverse range of domestic and business customers.
- Continuing to improve drinking water quality, in particular its taste and appearance.
- There are risks and uncertainties posed by issues like climate change that we need to address, some more quickly than others. Climate change is an increasing priority for 2010–2035 and we will need to adapt to it and provide our services in a more sustainable way.
- Managing the flooding risk from extreme weather events.
- The investment implications of emerging new environmental standards, such as the Water Framework Directive and revised Bathing Waters Directive, may remain uncertain at the time of the determination. To avoid price volatility, the determination should give appropriate recognition to these factors.
- Promoting sustainable solutions that can be implemented now in areas such as catchment management in order to avoid the need for expensive additional and compulsory improvements being required in the longer term.
- Having delivered substantial improvements in quality and environmental performance over the past 18 years, we need to sustain the reliability of our assets as they age and improve the robustness of their performance where necessary.
- If we are required to adopt private sewers, having the resources to bring them up to the required standards and maintaining them so that public health is protected.
- Retention of an agricultural route for sustainable sludge recycling.
- Uncertainty over the impact of new environmental taxes, threatening stable prices.
- Serving a region with high population growth and an extensive tourist influx.
- Securing efficient finance to enable us to undertake the improvements we need to make.

## Fact File



The South West is one of the fastest growing regions in the country and its population is expected to continue to grow, with forecasts for over 6,000 new homes to be built each year – including two new towns in Devon.<sup>6</sup>

# Executive summary

## 1.3 What we aim to deliver

We aim to deliver a number of specific outputs, which include:

### Drinking water quality

- 100% compliance with the required standards so that customers will never doubt that it is safe and pleasant to drink.

### Water resources and demand

- Always provide enough water for basic sanitation and personal hygiene.
- No water restrictions such as hosepipe bans, except in the most extreme circumstances.
- We will manage our water resources, leakage control and water efficiency programme in order to avoid building a new impounding reservoir before 2035.
- Pursue the lowest sustainable water losses due to leakage and fix all visible leaks as quickly as possible.
- Concentrate water treatment at key strategic works and improve our ability to move water around the region.
- Be leaders in helping our customers to use water efficiently.
- Further encourage metering as it approaches 100%.

### Customer service and choice

- Customers will find it easy to deal with South West Water.
- Resolve contacts first time, by investing in our systems and people.
- Customers can contact us in the way they want, including direct personal contact.
- Treat customers appropriately to their circumstances, especially with regard to affordability and debt.
- Offer choice to customers on services and tariffs.
- Develop tariffs that will encourage water efficiency and assist in delivering a sustainable supply/demand balance.
- Broaden the services we offer, for example, grey water re-use and rainwater capture.
- Our services will be constant and reliable.

# Executive summary

## Sewage collection and treatment

- Services will be odourless and “invisible” to our customers.
- No sewer flooding and zero pollution incidents.
- Prioritise the separation of surface waters from our sewers in order to minimise flooding and pollution risks.
- Sludge recycling undertaken in a sustainable manner, taking into account our carbon footprint.

## Sustainability

- Work in partnership with other organisations to manage responsibly river catchments, estuaries and coastline, improving the environment and protecting raw water quality.
- Deliver quality improvements to rivers, bathing waters, shellfish waters and groundwaters, when there is sound scientific evidence of the need, in the most cost effective and sustainable way possible.
- Meet carbon reduction targets.

## Efficiency

- Consistently be amongst the most efficient companies in the industry.
- Extend remote site operation and control of our networks without compromising service.

## Prices

- As stable as possible for the 2010–2015 period.

## Investors and debt providers

- Give a fair return for their investment from a soundly financed business.

# Executive summary

## 1.4 How we will deliver our strategy

We will deliver significant improvements to services, make South West Water as efficient as possible and keep prices as stable as possible. We will set challenging targets in areas that deliver real benefits to customers and the environment, such as no interruptions to customer supplies, the very best water quality and no sewer flooding or pollution incidents.

We will:

- Continue to be innovative in the policies and approaches we adopt; for example, WaterCare, debt management and our tariffs.
- Be innovative and use technology to help our service delivery. For example, we will consider further development of the remote monitoring and control of our assets.
- Work in partnership with others, such as Government and other regulators. They will need to be equally as innovative and, where necessary, change the way they do things.
- Think about the long term impact and sustainability of our plans.
- Develop our people to help us deliver the strategy.

Our strategy covers the next 25 years. Many of the things we need to do are already at an advanced stage of development. Others are at an earlier stage as we gather the evidence and information we need.

There are three broad phases that we need to go through when implementing our planned changes:

- Planning and investigation – identifying the need and gathering the evidence.
- Innovation and investment – finding the best way to achieve what we need to do and making the necessary changes to assets, systems and processes.
- Full delivery – making sure that the full benefits are delivered.

Set out on the following page is an indication of the timeline for the main developments covered in our strategy.

# Executive summary

## Future Developments Timeline



Key to phases of future developments:  Planning & Investigating  Innovation & Investment  Full Delivery

# Executive summary

## 1.5 Working with stakeholders

We have had discussions with a wide variety of stakeholders and carried out customer research to support the development of our strategy<sup>5</sup>. The customer priorities, from our research so far and what we plan to do to meet these priorities, are set out below.

Customer priority for South West Water	What we plan to do
1. Maintaining a safe water supply that is good for drinking, free of any unpleasant taste or smell and supplied at adequate pressure	Maintain our assets to sustain and enhance the quality Reducing the number of discoloured water incidents Carry out targeted mains cleansing and embrace new technology
2. More metering to ensure everyone pays according to what they actually use	Continue with voluntary metering towards 100% Introduce new tariffs
3. Ensuring that our wastewater treatment activities prevent pollution of the local environment	Strengthen our asset maintenance Improve robustness when justified
4. Having sufficient water resources to avoid hosepipe bans	Secure the raw water resources needed for the future and improve our ability to treat and move it around the region
5. Helping customers with water conservation and recycling in the home	Expanding the water efficiency help that we provide
6. To always be able to contact a human being who will understand the problem and resolve it	Implementing our Pure Service strategy to ensure your contact is dealt with correctly the first time you call
7. Controlling the amount of water lost through leakage from our pipes	Continue to have amongst the lowest leakage per kilometre of water main in the industry
8. Ensuring that all our activities have the minimum impact on habitats, plants and animals and on the local environment	Work with stakeholders to protect the environment and improve regional biodiversity Minimising our carbon footprint
9. Minimising interruptions to your water supply, particularly for more than three hours	Develop our ability to monitor water supply across our network
10. Ensuring that the sewer system can cope with heavy rainfall to prevent flooding inside properties	Improve our network to avoid sewer flooding, particularly where new development or climate change will have an impact

# Executive summary

The Consumer Council for Water, Drinking Water Inspectorate, Environment Agency and Natural England have discussed drafts of this document directly with us and through the quadripartite meeting process. We have conducted workshop sessions with regulatory bodies, groups of business customers, environmental organisations and customers.

Following our consultation to date, we have identified a number of important messages and areas where we need help from others in order to deliver our strategy:

- |                   |  |
|-------------------|--|
| For customers:    | <ul style="list-style-type: none"><li>- We want prices for 2010–2015 to be as stable as possible.</li><li>- We will improve the services that customers experience.</li><li>- Compulsory investments will be lower than at previous reviews, allowing customers more choice about service elements.</li></ul>  |
| For stakeholders: | <ul style="list-style-type: none"><li>- We will work in partnership with others to protect the environment now and in order to avoid expensive compulsory investments in the future.</li><li>- The balance between environmental improvements, service improvements and prices at PR09 must reflect our customers' views.</li></ul>  |
| For investors:    | <ul style="list-style-type: none"><li>- Give a fair return for their investment from a soundly financed business.</li></ul>  |
| For Ofwat:        | <ul style="list-style-type: none"><li>- We want PR09 to take a long term view of our strategy for services to customers and our policies on issues such as environmental stewardship.</li><li>- We need to work together on the development of new tariffs.</li><li>- Recognise our very recent shift in emphasis to maintenance and away from the delivery of new assets, now that the Clean Sweep programme has been completed.</li></ul>  |
| For Government:   | <ul style="list-style-type: none"><li>- We need to consider the value of further quality requirements and private sewer adoption carefully.</li><li>- Policy decisions on competition and social tariffs are important to support the delivery of services.</li><li>- The regulatory systems should be developed to provide appropriate incentives to meet the Government's sustainability objectives.</li><li>- The DEFRA water strategy should require more resilience in public water supply in order to take into account the emerging impact of climate change.</li></ul> |

# Challenges

## 2. Challenges

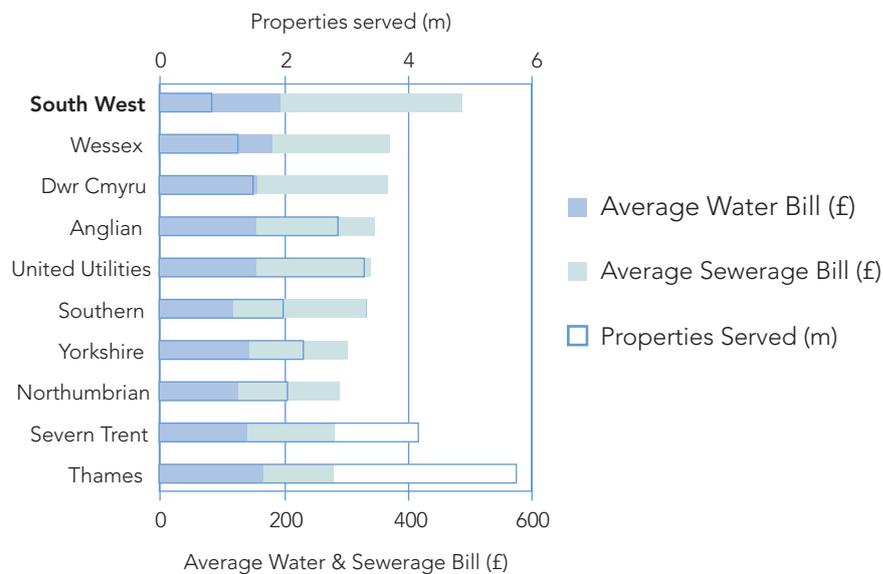
When the water industry was privatised in 1989, a regulatory body, Ofwat, was established. Ofwat's primary role is to set the maximum price limits for water and sewerage services every five years. Although water companies produce plans that cover the next five year period, many of the issues being considered and the assets that the industry invests in require long term planning for the future. We must look more than five years ahead.

The next Periodic Review is in 2009 (PR09) and only at the end of that year will we know what prices and investments will be necessary for the 2010–2015 period. However, by setting out some of the long term options now and getting feedback on them, we want the best possible outcome for customers and stakeholders. All schemes that are identified as part of the PR09 process, as in previous reviews, will be subjected to a rigorous cost benefit analysis. This demonstrates to our customers that the proposed scheme will offer them value for money. In this section we set out the key challenges that we face.

### 2.1 Stakeholder opinions

We have involved a wide range of stakeholders in developing our Strategic Direction Statement. The Consumer Council for Water, Drinking Water Inspectorate, Environment Agency and Natural England have discussed drafts of this document directly with us and through a quadripartite meeting process. We have run workshop sessions with regulatory bodies, groups of business customers, environmental organisations and customers. This document has benefited greatly from the discussions that have been held. Together with quadripartite meetings, the process has been a very useful start to the price review. We look forward to receiving further feedback from stakeholders on this Strategic Direction Statement and working with them to further develop our plans for the future. The ultimate challenge for South West Water will be to meet these stakeholder expectations, whilst keeping bills as stable as possible.

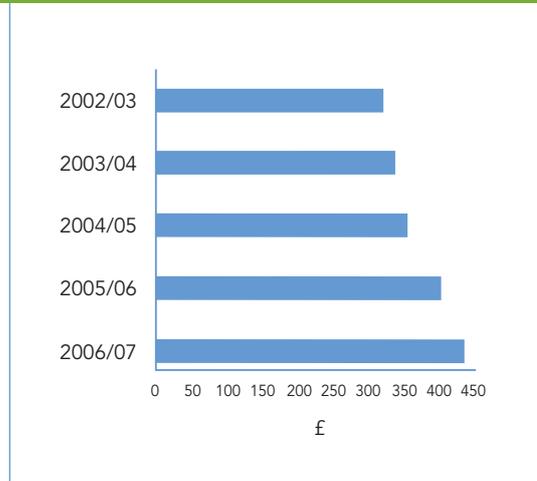
Future environmental improvements will need to be balanced against the existing sewerage bill paid by the relatively small number of customers in the region, as shown in the graph below<sup>4</sup>.



# Challenges

## 2.2 Customer views

The challenge for South West Water is to exceed the customer service expectations of our diverse range of domestic and business customers. To do this we need to continue to improve the level of service that customers receive. We have carried out a wide range of research to help inform our strategy<sup>5</sup>. This includes focus groups and market research to investigate customer priorities for water and sewerage services. We are carrying out further research to test how customer opinion changes with the degree of improvement and the cost. We have not limited our research to surveys; we have launched a public consultation document on our vision and priorities for the future "Delivering Pure Water, Pure Service and a Pure Environment".

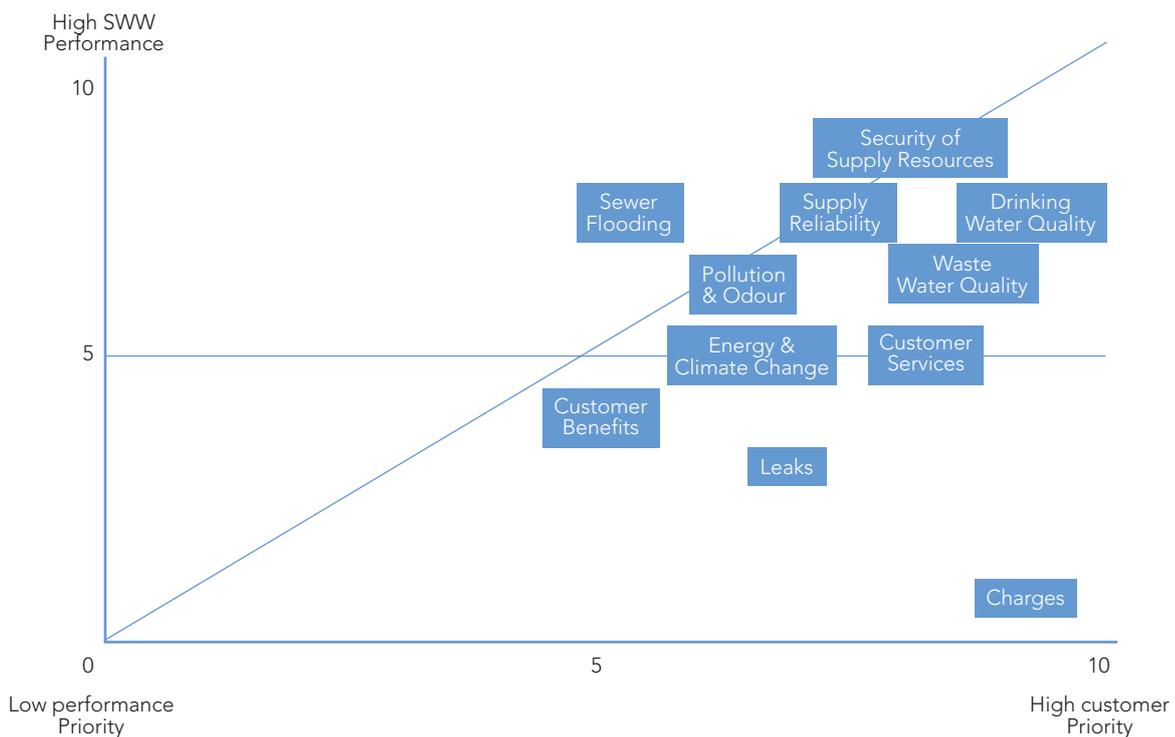


South West Water's average household water and sewerage bill<sup>4</sup>

The key messages from our research so far are clear:

- Customers are concerned about the level of water and sewerage bills in the region.
- Although customers recognise the high quality and safety of drinking water, the problems that they are most concerned about are its appearance and taste.

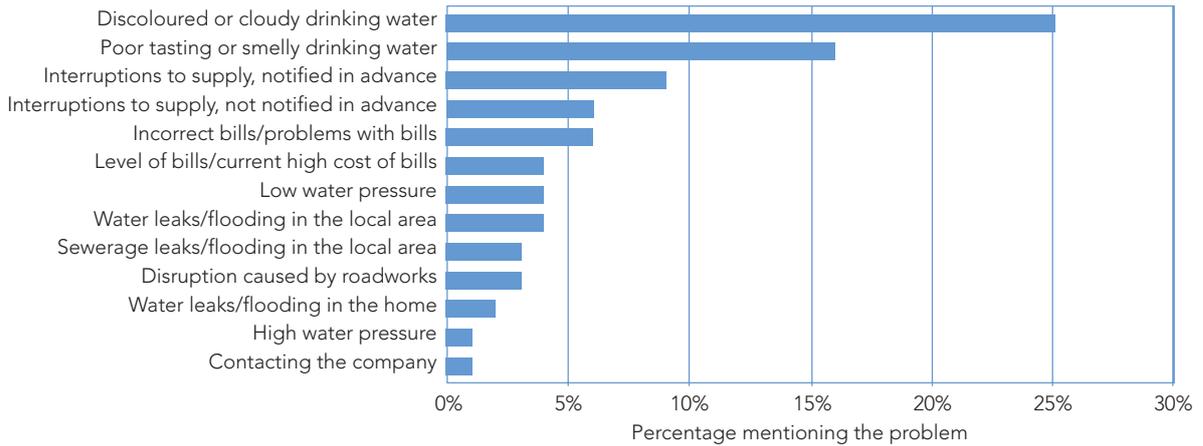
From our focus group research we can summarise customer opinion regarding our current performance and their priorities for improvement as follows:



# Challenges

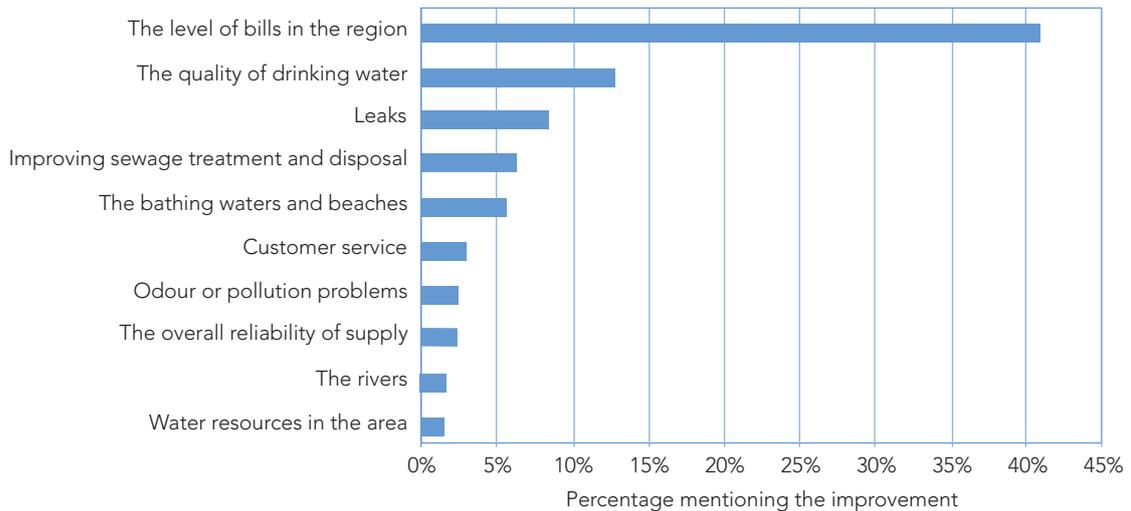
When we asked customers about the problems they had experienced with our services, they gave us the following unprompted responses<sup>5</sup>:

What problems have you personally experienced with your water or sewerage services in the last 12 months?



Their unprompted top priorities for improvement so far are<sup>5</sup>:

What are the most important areas that need improvement?



# Challenges

We have also asked customers about a programme of investments that we may be required to make, these included:

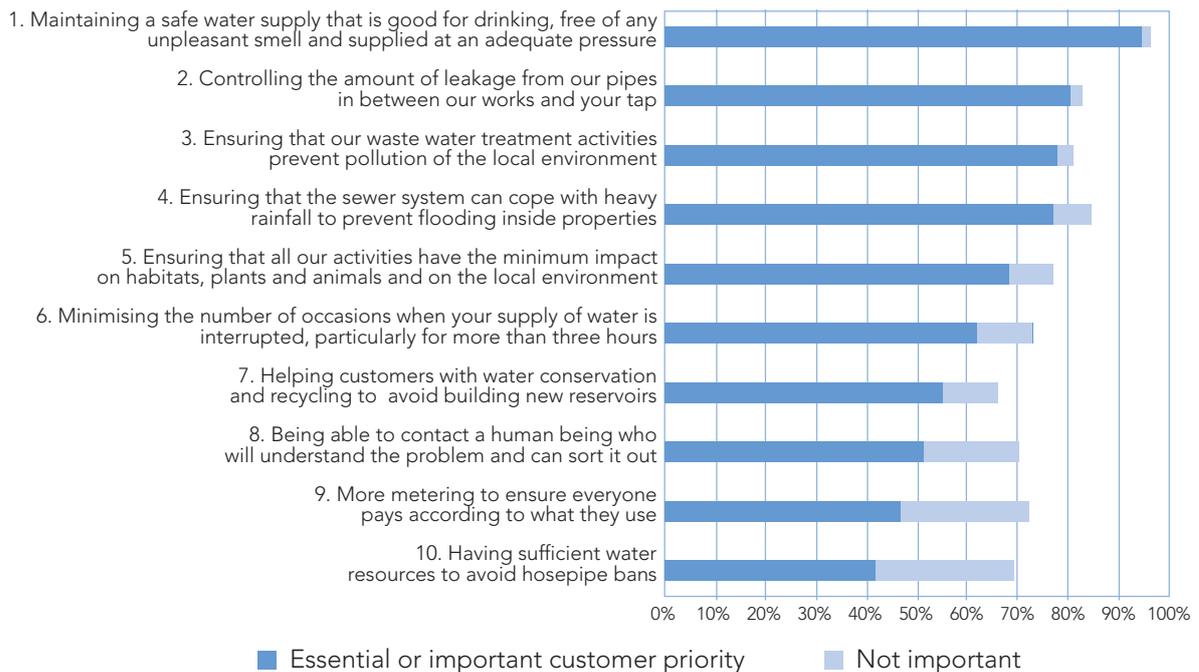
- Adopting private sewers.
- Improving bathing waters.
- Generating renewable energy.
- Protecting habitats.

We also asked them to consider when they would want them delivered if these improvements cost an equivalent of, say, £30 extra on their bill<sup>5</sup>:

- 24% were willing for the bill to increase in order to deliver these improvements by 2015.
- 43% preferred for the improvements to be carried out over an extended period up to 2030, if this reduced the impact on their bill.
- 33% would only want these improvements to be carried out at a time when there would be no impact on their overall bill.

This is not surprising given that these types of improvements do not appear to be high customer priorities, as shown in the graph below.

We asked customers whether the following priorities were essential, important, nice to have or not important to them<sup>5</sup>.

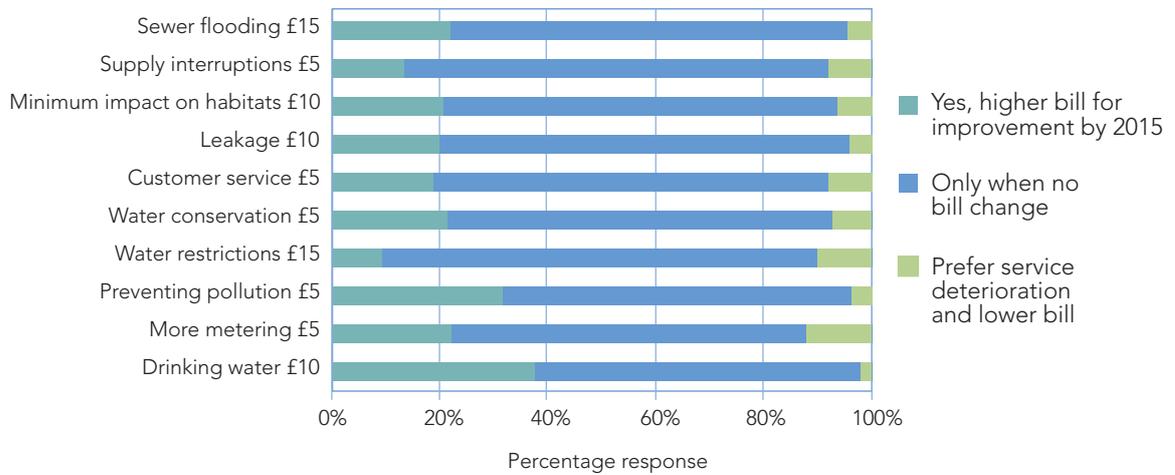


How important are the following priorities to you

# Challenges

We also asked customers about their Willingness to Pay for improvements to each of these priorities. Most customers supported improvements being delivered, when this could be done without the bill changing. Though customers are sensitive to bill levels, there was some limited support for improvements in the top priority service areas to be delivered by 2015, even if that resulted in an increase in bills. Very few customers preferred services to deteriorate in return for a lower bill<sup>5</sup>.

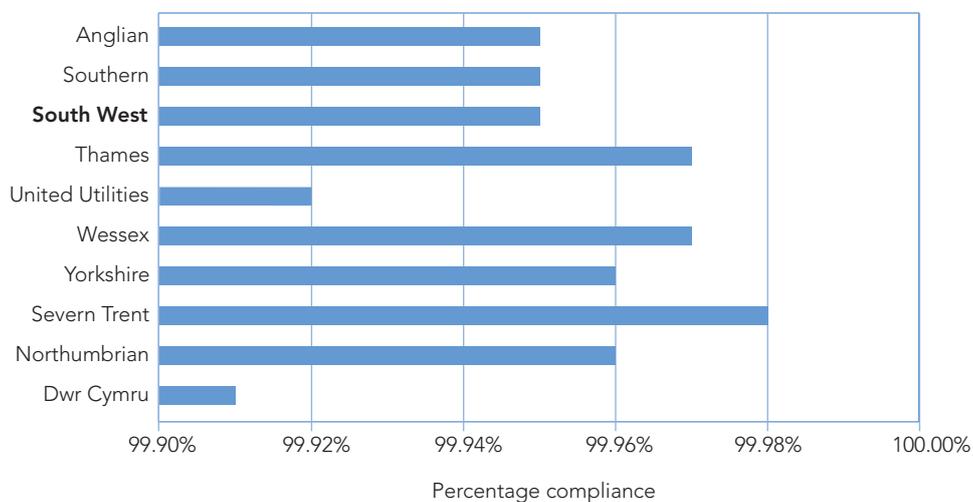
Willingness to pay for priority service areas



## 2.3 Drinking water

The challenge for South West Water is to continue to improve drinking water quality, in particular its taste and appearance<sup>2</sup>.

Overall Drinking Water Compliance 2006



# Challenges

The quality of tap water in the South West is such that we do not foresee a major new legislative investment programme, unless there are changes in legislation. The drinking water quality improvements that we are likely to carry out will be consistent with long term sustainability and appear to have the greatest customer support from our research. They will focus on specific, discrete programmes to tackle aesthetic water quality issues.

## Fact File

By December 2009, we will have replaced or relined over 3,000 km of water mains improving drinking water supplies for over half a million people. Since 1990 we have investigated or improved 73% of our entire network<sup>4</sup>.

Staged and phased approaches to quality improvements will be used wherever possible. We have successfully used this approach during 2005–2010 to meet DWI requirements for improving aesthetic water quality.

### 2.3.1 Drinking water safety plans

Based on DWI guidance we are preparing Drinking Water Safety Plans to ensure that the operation and maintenance of our works and networks are focussed on those places where there is the greatest risk of a problem affecting the quality of tap water that our customers receive. Our plans consider four main areas: catchment, treatment, distribution and customers' taps with risk assessments carried out for each area.

Our risk assessment database identifies hazards and events with critical control points and barriers for each area. Engaging with stakeholders is a key element in the delivery of our Drinking Water Safety Plans. These plans will help to inform our capital maintenance approach to works and pipes. They will also help to identify local issues and priorities to ensure that there is a sustainable level of activity to maintain water supply assets.

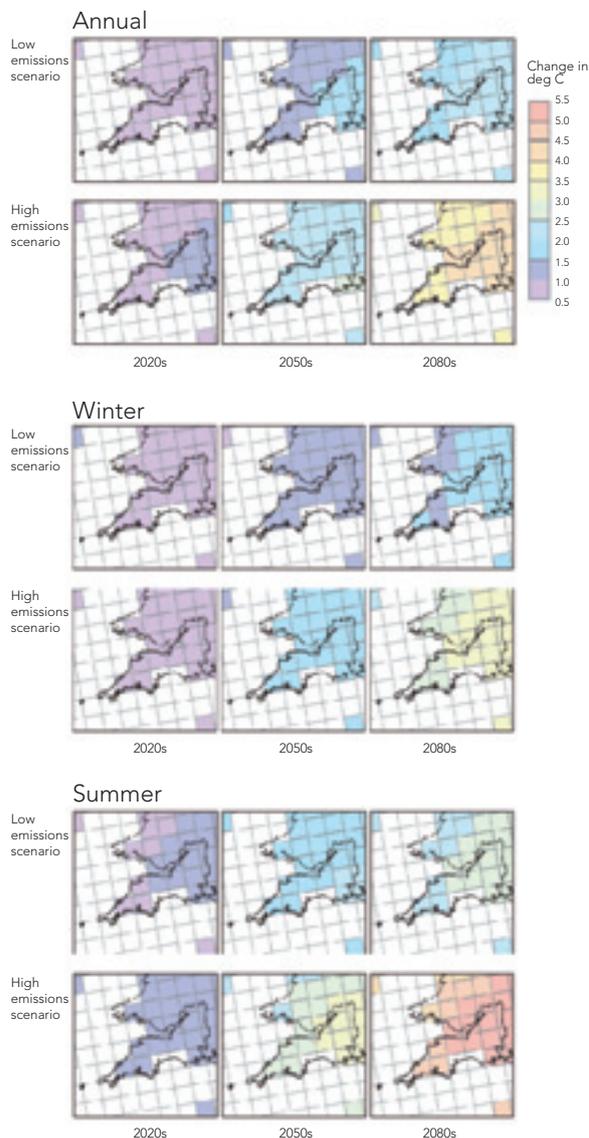
# Challenges

## 2.4 Climate change

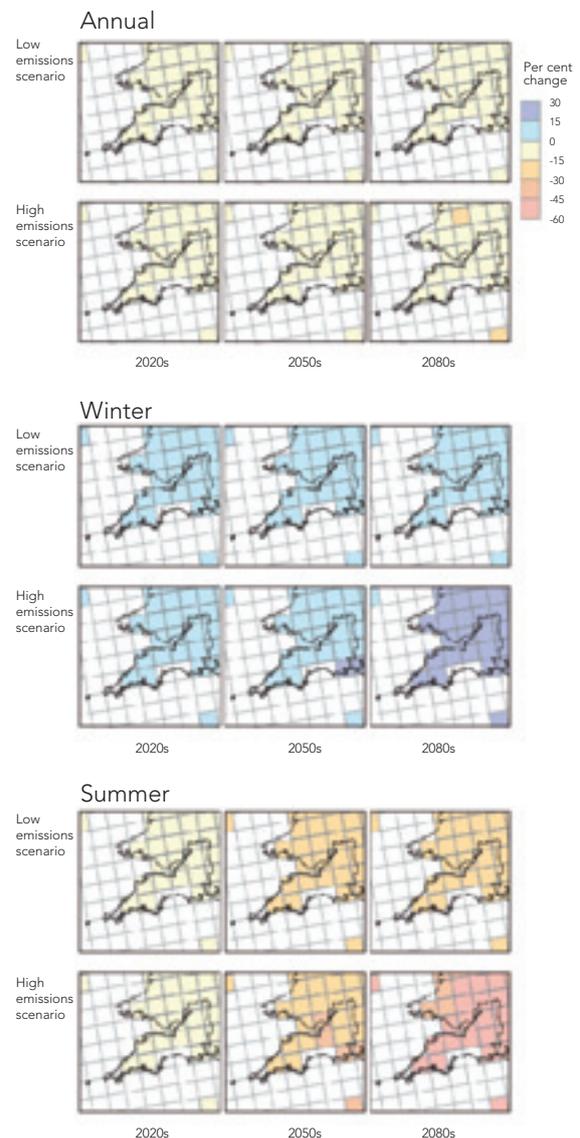
There are risks and uncertainties posed by climate change that we also need to address. Adapting to climate change is an increasing priority for 2010–2035 and the challenge for South West Water is to provide our services in a sustainable way.

The maps below from the UK Climate Impacts Programme (UKCIP02) scenarios for the South West, produced for DEFRA, show the changes in temperature and rainfall that are expected in the future. These highlight the hotter, drier summers and wetter winters that we are anticipating.

### Temperature



### Precipitation

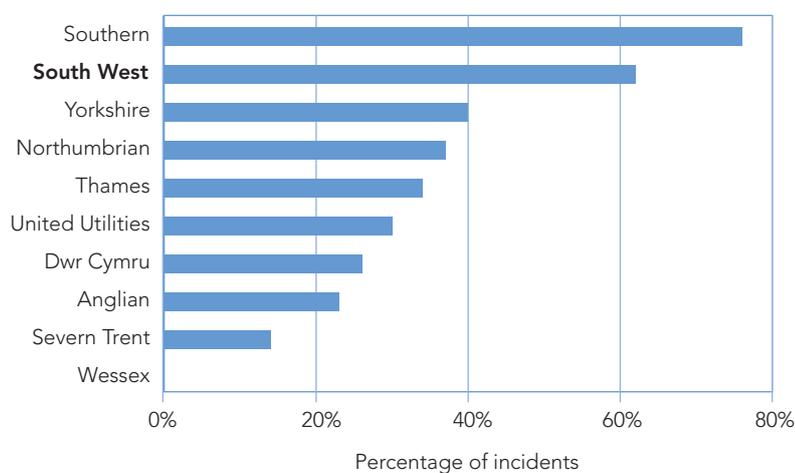


# Challenges

## 2.5 Managing flooding

We will also need to adapt to the flooding risk from the extreme weather events that are expected as a result of climate change. Extreme weather events already account for 60% of the flooding incidents caused by overloaded sewers, more for South West Water than most other companies<sup>4</sup>.

Proportion of overloaded sewer flooding incidents caused by extreme weather events



## 2.6 Emerging environmental standards

South West Water will also need to meet new environmental standards as they emerge. We expect that some uncertainty over what investment is necessary will remain at PR09. Because we want to avoid price volatility (we believe it helps our customers budget more effectively), the determination should give appropriate recognition to these factors. Over the next 25 years other challenges are expected to emerge, such as the Marine Framework Directive, the maritime equivalent to the Water Framework Directive.

### 2.6.1 Sustainability of environmental quality

We will use cost benefit analysis and our customer research to test whether environmental improvements are disproportionately costly when compared to their benefits. We will also take into account the significant amounts of investment that customers have already funded.

The best timing for improvements may depend on the maintenance cycle that has been created following the large peak in our investment from 1990 onwards. We will seek funding to carry out investigations which will be designed to reduce uncertainty wherever possible and to help us challenge these investment requirements.

# Challenges

## 2.6.2 Potential bathing waters schemes

Some bathing waters may not achieve the new satisfactory quality standard under the revised EU Bathing Water Directive. South West Water and the Environment Agency are working together to identify what sources of pollution cause this risk. There are up to 25 bathing waters where risks are being investigated. There are approximately 15 where improvements are likely. We plan to carry out surveys and investigations before 2010 to see what work may be required. Additional monitoring will be required at the sites even where improvements are not made.

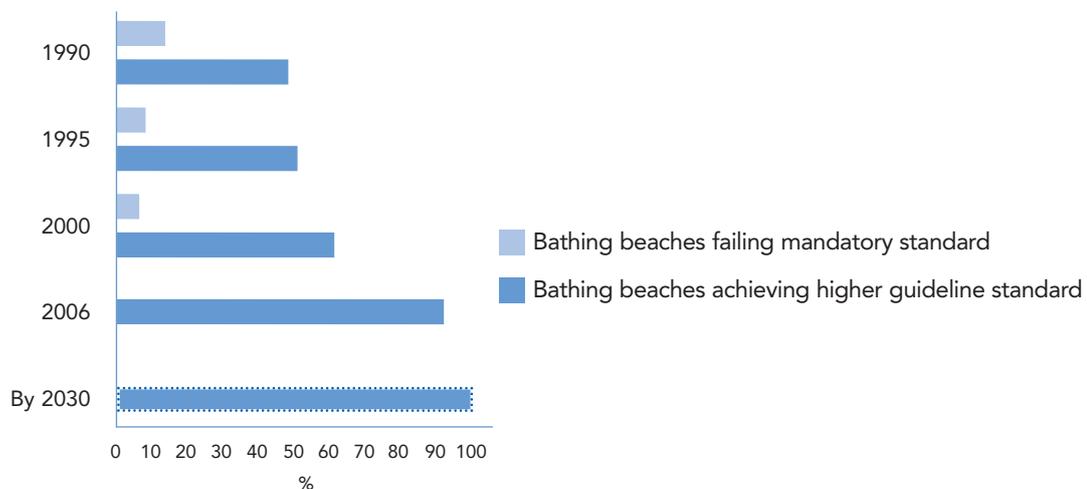
The graph below shows the history of improvement in bathing water quality and the future target<sup>3</sup>.

### Fact File

In 1996<sup>3</sup> only 51% of designated bathing waters in the region complied with the EU guideline standard.

In 2006, all 144 monitored waters in the South West Water area met the EU mandatory standard and 92% (131 waters) passed the more stringent guideline standard<sup>3</sup>.

This followed the completion of the original 'Clean Sweep' Programme where we have closed approximately 250 crude sewage discharges and built or improved 140 waste water treatment works since 1990.



## 2.6.3 Potential shellfish water schemes

The EU is considering whether the UK has implemented the Shellfish Waters Directive correctly. Depending on the outcome of this, there is a risk that a significant number of our assets (approximately 50 schemes) will need to be improved or investigated during the 2010–2015 period. Some of these sites were considered at the last price review but the Government did not require this investment then. We questioned the value of these schemes on our customers' behalf at the last review and maintain our concerns. Additional monitoring will still be required at sites where improvements are not made.

# Challenges

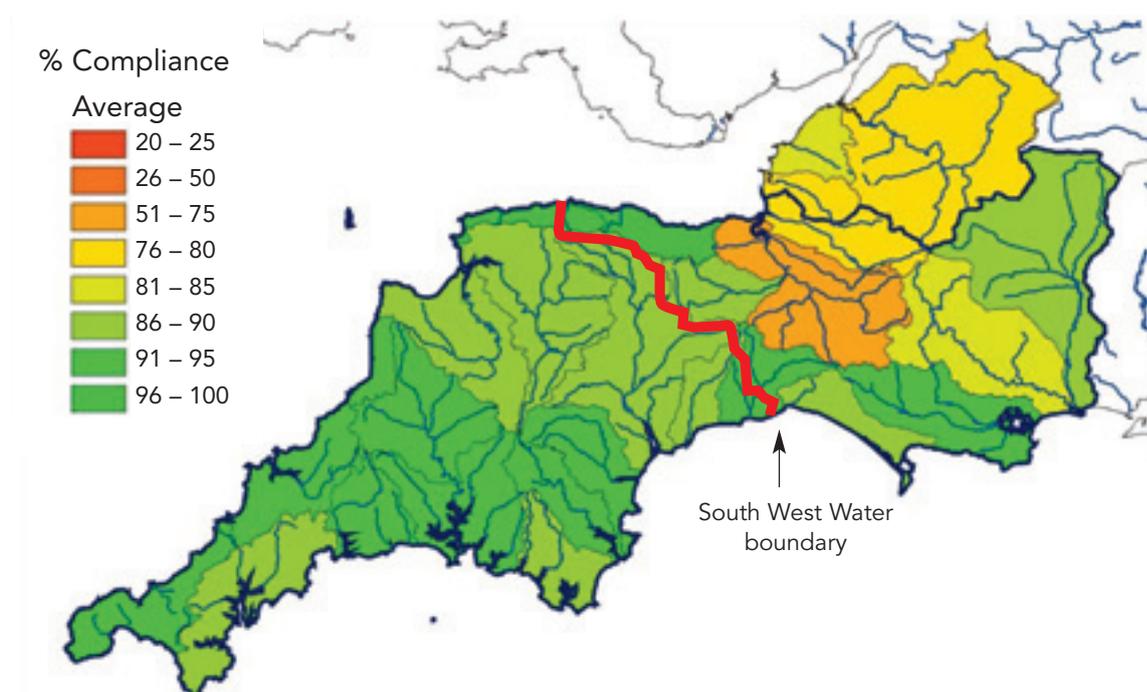
## 2.6.4 Potential groundwater directive schemes

Following investigations at a large number of waste water sites during 2005-2010, some of these may require improvement to meet the Groundwater Directive including upgrading to secondary treatment processes, additional sampling points and telemetry. Most of these sites are very small, are currently served by septic tanks or soakaways and have no mains power supply. This has the potential to become a significant programme of work.

## 2.6.5 Water framework directive

The EU Water Framework Directive requires all water bodies to achieve good status by 2015. It requires the Environment Agency to decide, with Government approval, which sources of pollution should be controlled to ensure that good status is achieved. Where there is significant uncertainty as to what is required, or if the measures are too costly when compared to the benefits, then it is possible for the improvements to be delayed until the best solution can be found.

The map below, provided by the Environment Agency for the Statement of Water Management Issues as part of the River Basin Planning process for the Water Framework Directive, demonstrates the existing high quality of the water environment in our region. As a result we expect that the contribution from water customers should be modest because of the high quality environment that the improvements over recent years have delivered.



# Challenges

It is expected that a reduction in rural diffuse pollution will be a key contributor to future improvements. South West Water may have to make improvements as part of the contribution to achieving good status. The main areas where possible improvements could be identified are:

Driver of improvement	Current estimate of impact
Reducing Nitrogen in treated waste water	No improvements expected to be required
Reducing Phosphates in treated waste water	Six possible sites, but no improvements expected during 2010–2015 based on the ecological impact
Reducing Ammonia in treated waste water	Approximately 20 schemes are likely to be required
Reducing Nitrates in treated waste water	Approximately five sites may require a tighter standard, depending on the result of improvements during 2005-2010. Other sites depend on the success of catchment management approaches
Flow compliance from treatment works	Some improvements may be required to at least eight sites
Removing other chemical substances in treated waste water	Based on ecological impact, few if any of 26 potential sites are expected to require improvements
Reducing the impact of water abstractions on the environment	A reduction by an average of 5.7MI/day to improve the habitat of the Dartmoor Special Area of Conservation
Meeting biodiversity objectives for Natura 2000 sites and Sites of Special Scientific Interest (SSSIs)	Four sites following investigations with Natural England during 2005-2010
Meeting Biodiversity Action Plans (BAP) for river habitats by improving discharges	Sites on two rivers

After 2015, further quality improvements under the Water Framework Directive are possible, if better scientific evidence emerges that improvements to South West Water activities are the most cost effective measures that can be taken to achieve the required quality.

# Challenges

## 2.7 Water sector plan

The Environment Agency's Water Sector Plan sets out a 25 year environmental vision for a sustainable water industry with eight prime objectives.

It covers the need:

- To maintain the environmental and water resource benefits and other outcomes achieved through the industry's investment programme.
- To deliver a high level of environmental performance that is sustainable through long term, integrated planning over a 25 year period or more.
- To minimise the production of and manage wastes from, construction and operational activities in line with evolving best practice.
- To optimise resource use.
- To take due regard of the impacts of climate change.
- To achieve a sustainable water cycle in partnership with others and to promote sustainable procurement.
- To regulate and operate in a way that encourages innovation and enables the water sector to adapt to change and deliver long term goals.
- To report publicly and communicate regularly on sector progress.

We will continue to work with the Environment Agency to ensure that their objectives for the water industry are considered in our plans. As an example, our approach to sustainability shares the environmental, economic and social goals set out in the Water Sector Plan.

## 2.8 Catchment management

The challenge for South West Water is to promote sustainable solutions now in areas such as catchment management to avoid the need for expensive compulsory investments being required in the future.

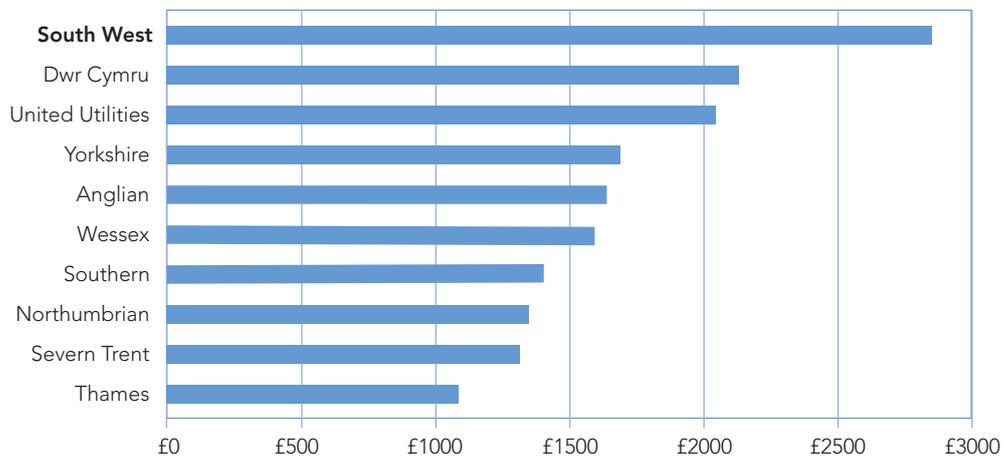
# Challenges

## 2.9 Asset stewardship

Having delivered substantial improvements in quality and environmental performance over the past 18 years, the challenge for South West Water is to sustain the reliability of its assets as they age and improve the robustness of asset performance where necessary.

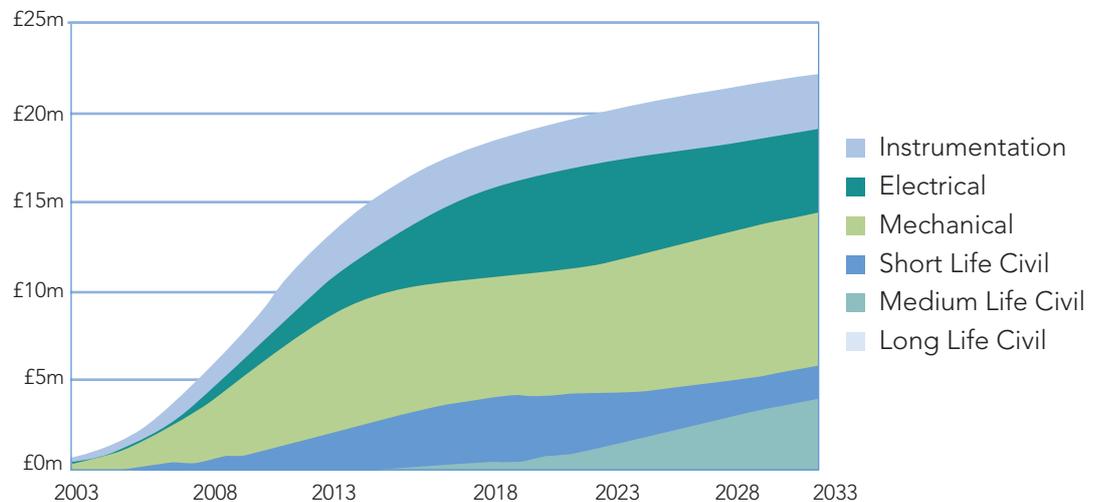
South West Water has the largest asset value per customer of any of the water and sewerage companies<sup>4</sup>. This is because a small population has had to fund a large number of assets.

Asset Value per customer



In order to sustain the improvements in quality we have achieved we will need to increase our expenditure on maintenance. The graph below shows an example of the timing of replacement of past quality investment at Waste Water Treatment Works as we predicted in 2004<sup>8</sup>.

Waste water treatment – profile of quality replacement investment



# Challenges

We have applied a common methodology, following the principles of the UK Water Industry Research (UKWIR) Capital Maintenance Planning Common Framework (CMPCF), across our asset base to assess the performance of our assets, project future performance and identify the investment required to ensure that our assets continue to provide customers with a safe and reliable service.

A number of supporting methodologies and tools have been developed, these include:

- Analysing the 'Mean Time Between Failure' data within our source system to identify asset performance and deterioration issues.
- Considering the whole life cost analysis of operating our assets.
- Sewerage system studies and network modelling utilising GIS.
- Investment plans to take into account the impact on the customer and the environment.
- An approach to the management of small waste water catchments developed in partnership with Exeter University.

Some of the drivers that have been used in our analysis include:

- Statutory inspection requirements.
- Legislation.
- Asset deterioration.
- Whole life operating cost.
- Drinking Water Safety Plans.
- Climate change.
- Flooding prevention.
- Zero pollution incidents.
- Carbon footprint.

## Fact File

- We operate and maintain 9,100 km of sewers<sup>4</sup>. On average we reinstate or replace 7 km each year<sup>4</sup>. At this rate it will take over 1000 years to renew the entire system.
- Adoption of private sewers could increase our network by at least 40%.

### 2.10 Adoption of private sewers

If the Government requires South West Water to adopt private sewers, the challenge for us will be to bring them up to the required standards and maintain them so that public health is not affected.

### 2.11 Sludge recycling

South West Water will work with farmers to retain an agricultural route for sludge recycling and help them reduce their reliance on artificial fertilisers.

### 2.12 New environmental taxes

South West Water is uncertain as to the cost impact of new environmental taxes that may be associated with carbon targets. The challenge for us is to assess and mitigate the impact against our priority for stable prices.

# Challenges

## 2.13 The regional economy

Devon and Cornwall are forecast to have the largest population growth in the country between 2010–2030, even more than in the South East. The challenge for South West Water is to deal with this pressure on water resources, our treatment works and on the capacity of the network. Demand management through water efficiency is unlikely on its own to deal with this growth. We will need to invest in our ability to move water around the region to those areas where demand pressures are the greatest.

Relatively low wages and high house prices contribute to the affordability challenge affecting some of our customers due to the impact on disposable incomes. This too presents a challenge to South West Water.

## 2.14 Incentives

Incentives for service and efficiency performance are an important part of the regulatory regime. It is important that efficiency incentives are not dealt with in isolation from service levels and that the incentives deliver the 'right' package of outputs. Incentive based regulation should start with considering the service levels that stakeholders support rather than focussing in isolation on expenditure and efficiency savings. Companies should have individual targets which reflect their situation and what their stakeholders require.

## 2.15 Efficiencies and risk

South West Water is on course to achieve the efficiency targets set out by Ofwat for 2005–2010 at the last price review. We have made substantial progress on making efficiencies and we expect to continue to do so. However, the scope for further efficiencies is reducing and they will need to be supported by appropriate capital investment. As efficiencies are made, less controllable costs will also grow as a proportion of our operating cost base.

Risks from cost increases have been managed wherever possible. Controlling our bad debt costs, along with energy costs, are successful examples of this. We expect this approach to continue. We will identify what efficiencies are achievable depending on the level of investment and service improvement we are proposing. Capital maintenance efficiencies and whole life costs have been built into the risk based approach taken to forecast future requirements. In some instances lower whole life cost solutions can result in short periods of higher operating costs, especially where major capital investments are avoided.

A sustainable South West Water will be more efficient in the long run. Addressing planning concerns in environmentally sensitive areas has often resulted in pumping waste from coastal villages uphill to some distance away from the population centre concerned. This is neither good for the environment nor economically efficient.

# Challenges

During the period 2010–2015 there will be other unavoidable costs, such as:

- Traffic Management Act.
- Pension pressures.
- Fuel prices and availability.

Our risk assessments and contingency planning are based on sound methodologies. We collaborate with our Civil Contingencies partners and Government Departments in contributing to the goal of community resilience. The highest risks will therefore continue to receive the most attention.

Similarly, we are working to ensure that water and sewerage services continue to be protected. Our plans recognise that exceptional circumstances, arising from many potential sources of risk, can affect the service we provide. As we move towards a more centralised operation we will need to make sure that our resilience is maintained. Therefore, our investment will be targeted to make our infrastructure and service delivery more resilient.

## 2.16 Financing strategy

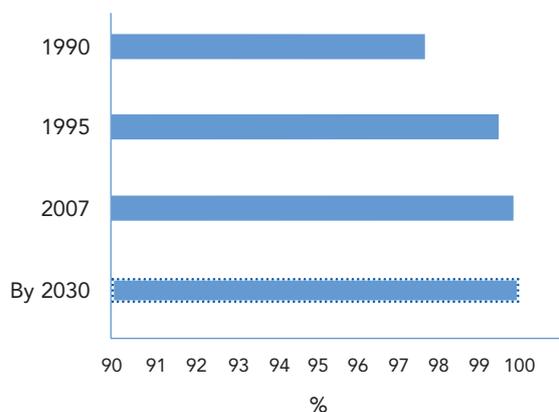
The challenge for South West Water is to attract and secure, in a cost effective manner, the finance we need to undertake improvements to the services we provide.

The South West Water financing strategy during 2005–2010 has allowed expensive historic debt to be replaced by cheaper debt available in the last few years. Ofwat's financing approach taken at the last price review gave the regulatory certainty that allowed the market conditions for this strategy to work. We believe that a continuation of this approach is in customers' long term interests.

Customers feel that developers do not pay a fair share of the investment that is needed to serve new customers. We want Ofwat to consider allowing a more significant increase in infrastructure charges and to include in this a contribution to upgrading works as well as the infrastructure.

# Pure water

Tap Water Quality<sup>2</sup>



## 3. Pure water

### 3.1 Drinking water quality

We will continue to focus on achieving 100% compliance with the statutory requirements for drinking water quality standards, updating technology at water treatment works, service reservoirs and the distribution network as necessary. Following the introduction by the DWI of a number of additional key measures we will be aiming to achieve 100% in all of them.

The first stage of delivering a long term water quality strategy that will deliver 100% compliance with legal standards and improve the taste of drinking water will focus on reducing the number of appearance related water contacts.

## Fact File

### Water Supply<sup>4</sup>

Properties served	
– Households	666,000
– Non-household	72,000
Population served	1,600,000
<hr/>	
Average daily volume of water into supply	447 megalitres/day
<hr/>	
Average domestic per capita consumption	
Metered customers	139 litres/head/day
Unmetered customers	164 litres/head/day
Weighted average	150 litres/head/day
<hr/>	
Abstraction licences	81
Total abstracted in 2006	177,000 megalitres
<hr/>	
Water resources	
Impounding reservoirs (direct)	25%
River abstractions	68%
Groundwater	7%
<hr/>	
Reservoir raw water capacity	113,000 megalitres
Number of water treatment works	39
Number of service reservoirs	293
Length of water mains	15,000 km
Leakage	83 megalitres/day

# Pure water

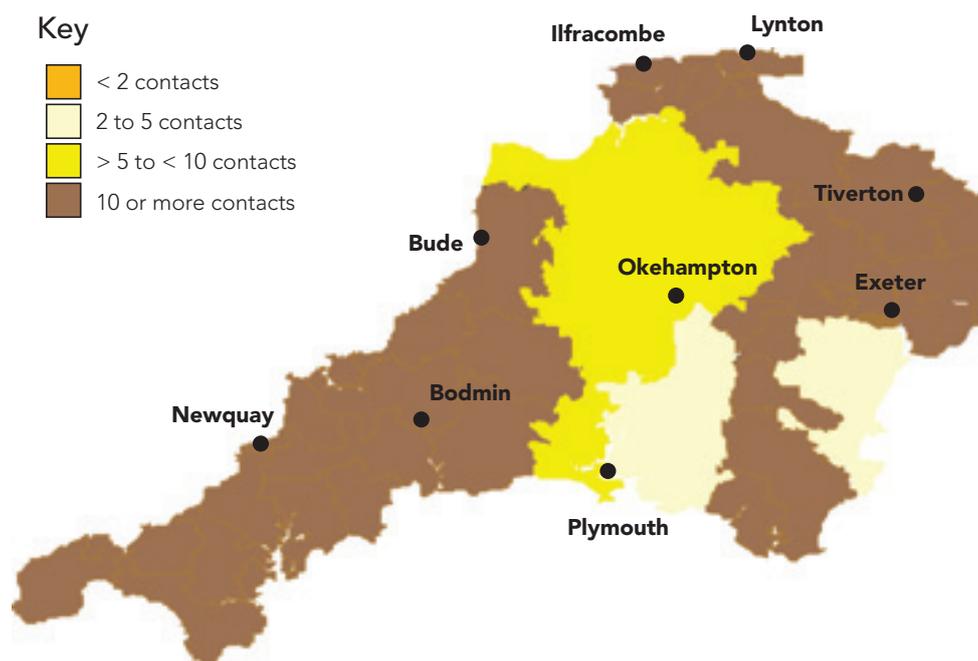
Achieving 100% compliance does not just rely on South West Water's assets. Meeting drinking water quality standards at the customer's tap also requires us to have an influence beyond our point of supply. Customer education, an approval scheme for plumbers and in the long term the adoption of customers' assets could all play a role.

As a first step, we will take action in the highest priority areas. As an example we are planning an internal lead pipe replacement trial (for water quality) for key public buildings in partnership with local authorities and their expert Environmental Health Officers. It would be possible to combine this trial with providing water coolers under the Water for Health initiative giving a dual public health benefit.

In other priority areas, we will consider trialling the replacement of customer lead pipes (for water quality) when we discover these, for instance when fitting meters.

Our customers tell us that it is very important to them that they never doubt that the water is pleasant and safe to drink. Our major programme of mains rehabilitation of recent years has played a big part in reducing appearance and some taste issues. Whilst many of the discolouration contacts are being addressed by our mains rehabilitation programme, which will finish in 2009/10, other taste and appearance contacts are expected to continue and will need to be addressed.

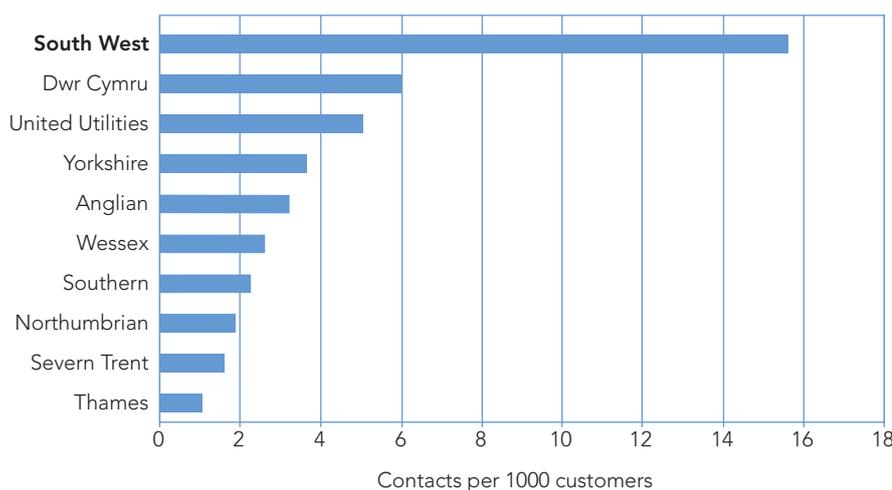
The DWI has provided South West Water with data on the number of contacts received from customers in 2006 as shown in the map below. This helps to supplement the information we use to target discoloured water incidents. The nature of the region and its sources of very soft, slightly acidic moorland water contribute to the significantly larger number of discoloured water contacts in our region compared to elsewhere in the country.



# Pure water

South West Water received 15.55 contacts on the acceptability of drinking water per 1000 customers in 2006, compared to the national average of 2.89<sup>2</sup>.

Contacts received in 2006 concerning the acceptability of drinking water



We will still carry out mains relining but on a much smaller scale and this will form part of our Distribution Operation and Maintenance Strategy (DOMS). A targeted programme in this area will also help us achieve our long term objective of minimising the taste of chlorine in drinking water by 2030, which we believe will improve customer satisfaction significantly.

### 3.2 Water resources and demand strategy

We will always provide enough water for basic sanitation and personal hygiene. We do not want to impose water restrictions such as hosepipe bans, except in the most extreme circumstances. Through a combination of demand management, metering, water efficiency measures and flexibility in our networks we aim to avoid building a new impounding reservoir before 2030.

We will continue to help customers manage demand. We will pursue the lowest sustainable water losses due to leakage and fix all visible leaks as quickly as possible.

In order to postpone for the foreseeable future, the need for significant new resources, we will invest in our ability to move raw and treated water around the region and concentrate water treatment at key strategic works which will allow us to make better use of the sources we already have. This will help secure supplies and minimise the long term costs.

Our Draft Water Resources Management Plan will be published in March 2008 and will be subject to full public consultation. The plan will set out how we propose to meet the demands of our customers up to 2035.

The following diagram indicates options for consideration over the next 25 years for our water supply, treatment and distribution strategies.

# Pure water

## Options over 25 years for water treatment and distribution

### Regional Approach

- Increase deployable output to maintain water available for use headroom
- Flexible strategic network
- Maximise hydroelectricity generation opportunities
- Optimising production and distribution costs
- Catchment and aquifer management initiatives with all stakeholders to improve raw water quality

### East Devon

- New raw water transfer from boreholes to Pynes
- Improved use and deployment of boreholes
- Increase treated water storage
- Boost capacity and transfers in Ottery area and for Cranbrook
- Link strategic mains in area

### Mid and North Devon, North Cornwall

- Upgrade key works and optimise production at others
- Investigate new river sources and transfers
- Reinforce North Roadford supply from Pynes
- New strategic main from Northcombe to Jacobstow
- Duplicate link from Northcombe to North Devon across the River Taw
- Tamar catchment management



Overview of Current Strategic Water Distribution System

- ➡ Trunk Mains
- ➡ River Transfers

### Plymouth and South Devon

- New North Plymouth works enabling rationalisation
- Transfer raw water from Houndall, Watercombe and Avon to Littlehempston
- Increase treated water storage
- Transfer treated water from Roborough to Houndall and Avon

### Mid Cornwall

- New strategic works
- Increase and rationalise treated water storage
- Catchment management
- New strategic main linking St Cleer and Restormel supply areas
- New strategic main from Jacobstow to Davidstow

### West Cornwall

- New transfers of raw water to focus treatment at enlarged Stithians works
- Mains and treated water storage enhancements
- New strategic main from Stithians to Wendron
- New spine main links to support West Cornwall

# Pure water

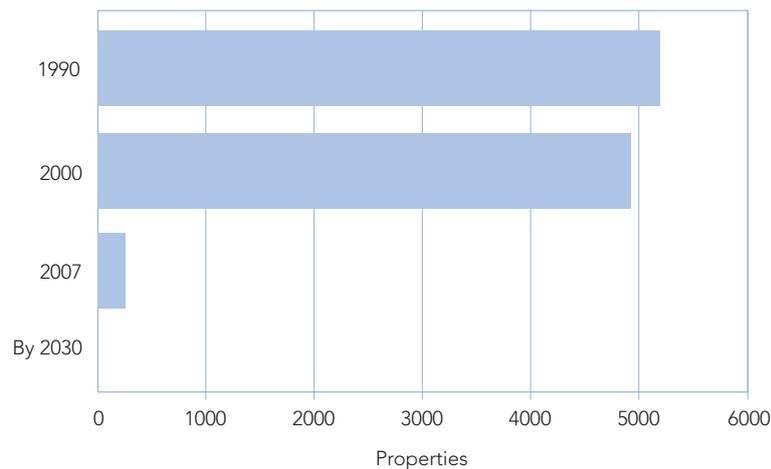
## 3.3 Interruptions to supply

We will enhance our system to deliver an even more reliable and consistent service to our customers. Our long term aim is to have no unexpected interruptions to the supply of water. We will start by targeting the replacement of non-metallic types of pipe that are most likely to burst. However, when this does occur and is likely to last longer than three hours, we plan to use technology to minimise the inconvenience to our customers.

## 3.4 Pressure

Our long term objective is to achieve a target of zero properties that regularly experience low pressure. As shown in the graph below the number of properties has been dramatically reduced<sup>4</sup>. In order for us to achieve our objective we will need to invest in additional sensors and local pumps.

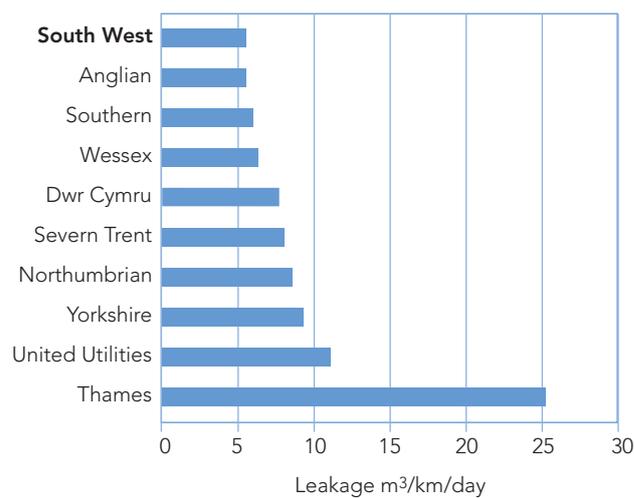
Properties suffering from poor pressure



## 3.5 Leakage

Over the last eight years we have consistently shown industry leadership in leakage control<sup>4</sup>.

Leakage per km of water main 2006/07



# Pure water

We will continue to do this by:

- Setting a leakage target which is at or below our calculated economic level.
- Fixing visible leaks quickly and minimising customer disruption. (We see this as a fundamental part of customer service.)
- Updating the social and environmental costs and benefits following a review of our economic level of leakage.
- Continuing to encourage the reduction of customer supply pipe leakage.

## Fact File

- Since privatisation leakage has been reduced by 60%. This is enough to supply the whole of Plymouth and Truro.
- We continue to deliver our regulatory leakage target of 84ML/d, with a best ever performance of 83 ML/day for the year 2006/07<sup>4</sup>.

## 3.6 Water efficiency

Our vision is to be recognised as an industry leader in water efficiency. Our strategy will:

- Ensure that we remain at the forefront of water efficiency.
- Comply with the legislation on water efficiency.
- Satisfy the agreed requirements of the Environment Agency.
- Give our customers industry leading advice on water efficiency.

We have developed a number of distinctive additional services which will benefit our customers and we are consulting widely with organisations within our region to provide the enhancements they want.

- Free online information for commercial customers detailing consumption trends, billing information and carbon footprint of water and waste water usage.
- Trade effluent customers are given information on free commercial water audits.
- Working with regional housing associations to install cistern displacement devices as part of their on-going maintenance programmes.
- Audits are offered to customers with affordability issues on a targeted basis.
- High use sectors such as holiday and hospitality are supported through joint initiatives with organisations such as Cornwall Sustainable Tourism and South West Tourism.

By 2015 a large majority of our customers will have chosen to be metered or will be on assessed charges. We would also like to work with developers to trial new approaches to water efficiency in new housing developments and then use the results to help customers in existing properties.

Through our recent water efficiency trial, we have investigated the effectiveness of a number of water efficiency devices, including cistern replacement devices, spray taps, shower heads, hose spray guns and leak alarms. Information gained from this trial will help us to develop our future approaches to water efficiency.

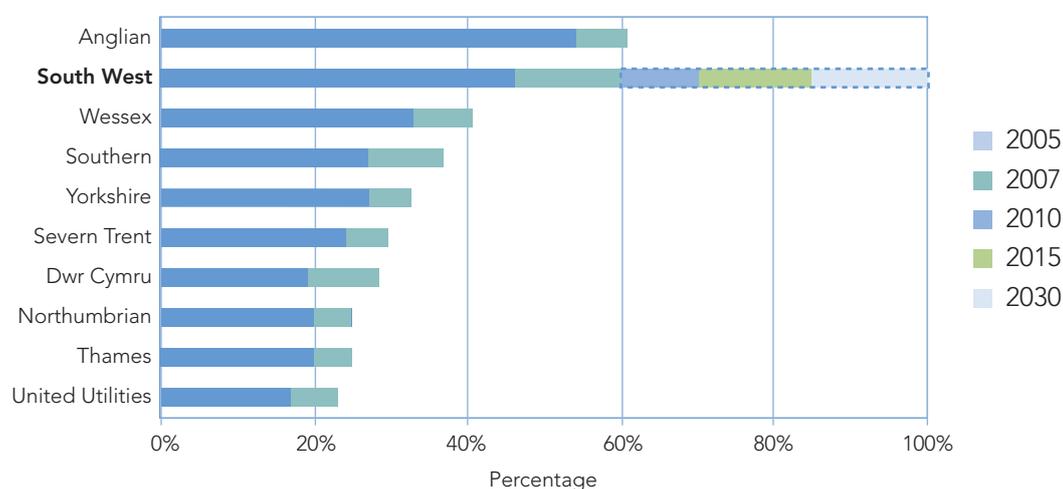
# Pure water

## 3.7 Metering

Metering, combined with water efficiency, assists most customers with affordability issues. It also helps demonstrate the value of water and waste water services. In the future, as new tariffs are developed, it will provide customers with an element of choice.

Many of South West Water's customers have taken advantage of the option to have a free meter fitted since we first offered this service in 1997. In the last five years 18% of households have opted to have a meter installed. This has assisted in reducing demand.

Proportion of households metered<sup>4</sup>



Over 60% of our domestic customers are now billed based on the volume that they use<sup>4</sup>. Both customers and the environment have benefited from metering. We expect that customers will continue to take up the voluntary option of having a free meter installed. We anticipate that by 2010 70% and by 2015 85% of our customers will have a meter. As metering increases, the relationship between South West Water and our customers changes. Metered customers contact us more with meter readings, billing and water efficiency enquiries and leakage on customer pipes comes more into focus for these customers.

We will continue with our voluntary metering policy between 2010–2015. We will actively promote metering through targeted marketing. Where we have yet to fit a meter, either because the customer has not requested it or where it has been too expensive to do so, we need to consider the best way to proceed.

After 2015 we will consider the costs and benefits of other options such as meter installation on change of occupancy as metering approaches 100%.

Ultimately we will require smart meters to allow for new tariffs and to provide better information on water use to customers. We are currently trialling them and would anticipate the use of smart meters before 2015.

## 3.8 Phased utilisation of remote operating systems (Puros)

Our Puros initiative seeks to transform how we operate and maintain our assets to achieve our long term clean and waste water quality objectives. This will build upon our successful Service Plus project which has transformed aspects of how we interact with our customers. There is a need to replace our SCADA operating systems between 2010–2015 and we are looking to do this as part of Puros rather than simply considering a like-for-like replacement. This provides an opportunity to enhance our work scheduling and mobile computing capability and improve our operational data, allowing more remote operation of our assets and hence contribute significantly to both our future operating efficiency and asset knowledge.

Elements of our Puros vision include:

- Centralised monitoring and remote control of automated treatment works. This would allow more satellite works to be controlled centrally and would assist with our catchment management aspirations.
- Robust and reliable assets to help us deliver environmental and service standards at a sustainable level of risk to the environment.
- Planned maintenance programmes driven by reliability and condition monitoring whilst improving our asset knowledge.
- Intelligent remote monitoring and interventions driven from an expanded service and control centre.
- An efficient, multi skilled and mobile workforce, with access to operational information and other tools.

Our vision is that remote control should be possible for all assets. A live data link to network models would enable prediction of bursts and blockages with their associated pollution and risk to service standards, with, for example, the potential for automatic re-routing of supplies.

## 3.9 Research and development

Many of the innovations that we believe are necessary may require significant Research and Development expenditure. We will seek support for Research and Development to be recognised as an investment within the Regulatory Capital Value for the long term benefit of customers, even where those benefits may not be delivered within one price review period. In order to support this, and in line with other regulators such as Ofgem, we believe that there ought to be specific incentives which support Research and Development work.

Improved services require a number of innovations. Some of these will require the use of advanced technology as it emerges, others will require novel or simple approaches applied to new situations. There are a number of areas where we believe long term research and innovation is required, often in partnership with others. For example:

- Smart meters to give customers more usage information and to deal with more advanced tariffs.
- An enhanced billing system to cope with the significant increase in data from smart metering.
- Technology to reduce the amount of chemicals used in treatment processes.
- Technology to assist customers in minimising food waste disposal into sewers.
- Low carbon footprint reed beds as part of sustainable drainage systems.
- Standard grey water and rainwater recycling systems, approved by South West Water, so that customers can be sure of the technology.
- Water efficiency technology.
- Remote monitoring and asset operation technologies capable of identifying and predicting problems.
- Knowledge and data management systems to allow us to make the most of our information.
- Renewable energy generation technology.
- Catchment management.

# Pure service

## 4. Pure service

### 4.1 Future customer service

Pure service, where we focus on getting the service right first time from the customer's point of view, is how we intend to characterise South West Water's approach. Across the wide range of performance indicators that reflect our vision, we will always target being at least in the top three of our comparator companies.

To achieve pure service we will:

- Deliver an excellent water and sewerage service, as measured by the range of Ofwat indicators.
- Make it easy for our customers to contact us via a range of communication channels, reaching a human being whenever they want.
- Provide excellent service by resolving issues first time and by focusing on the areas where we get it wrong.
- Deliver customer service according to need, introducing a range of targeted affordability initiatives and new tariffs.
- Be industry leaders in customer service, particularly through helping customers with water efficiency.
- Be community leaders, recognising our responsibilities to the region.

Customers will find it easy to deal with South West Water and all of our services will be consistent and reliable.

## 4.2 Customer contact

### 4.2.1 Ease of contact, speed of resolution

Ease of contact for our customers with South West Water forms a major part of our service delivery plans. Metering inevitably increases the number of times that customers contact us.

The way that South West Water handles contacts will result in an improved customer experience and lower costs. To achieve this we will focus on the following:

- Maximising first contact resolution.
- Minimising repeat contacts.
- Reducing unnecessary contacts.

The investments required to deliver this will incorporate:

- Quality and Performance management systems – consistent, structured processes addressing the quality of service and performance, supporting first contact resolution.
  - For example, we are already investing in Workflow, which is a technical solution incorporating work management, workflow routing and skills-based routing.
- Knowledge Workers – a focus on resolving customers' queries through understanding the context and with the support of knowledge management systems.
- Customer Culture – a business culture based on customer advocacy.

### 4.2.2 Service Plus

The Service Plus approach that South West Water has implemented combines customer service and operational technical expertise which allows us to deal with customer issues in a timely and efficient way. The focus is on resolving customer contacts as early as possible. The Service Centre is resolving approximately 8 out of 10 contacts it receives without having to pass the query out to field staff. This lowers our operational cost, as well as improving the service being provided. Keeping customers informed of what is happening and getting feedback on our performance from them has resulted in a measurable improvement in customer satisfaction. During 2010–2015 we will roll this concept out further, to cover more of the interface between the operation and maintenance of our assets and how well we provide services to customers.

# Pure service

## 4.3 Customer service targets

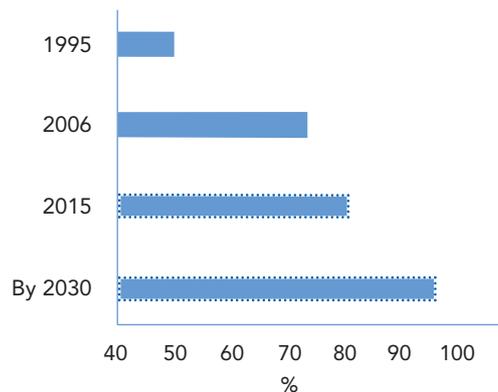
Our customer service targets for the future include:

	Statistics for 2006/7	Target for 2015	Target for 2030
Overall customer satisfaction with services	72%	At least 80%	At least 95%
Water efficiency savings made by customers	5.2Ml/day	Increase by 100%	Increase by 300%
Repeat operational contacts from customers	8.2%	Less than 5%	Less than 1%
Number of complaints	10,421 14 per 1000 customers	Reduce by 30%	Reduce by 50%

Whilst our aspiration is to satisfy 100% of our customers, we understand that our customer expectations are increasing and this may be difficult to achieve.

Where South West Water seeks new investment to improve services they will be based on customer research. We will make clear what the benefits of a different approach are and seek to communicate these to our customers.

Customer satisfaction with services<sup>2</sup>



## 4.4 Charging and affordability

The impact of funding the work required to improve 30% of the country's bathing waters by 3% of the population has had a significant influence on the level of bills in the region. Although this was not within our control, we are now looking to review the opportunities available to us to redress the balance and improve the perception of fairness of paying for the service our customers and visitors receive.

### 4.4.1 Debt management and support

South West Water has continually evolved its debt management strategies and operations in order to minimise the amount of bad debt and its impact on customer charges.

Our strategy involves segregating those who have real difficulty in paying from those who can pay but will not and using the tools listed below to recover debt:

- Implementation and development of a Credit Management System.
- Improving previous occupier collections.
- Increased use of Water Direct.
- Operation of a Restart scheme as part of WaterCare.
- Improving commercial collection processes.
- Working with other agencies such as Citizens Advice Bureaux.
- Enhancing early contact with new non-payers.
- Seeking legislation to increase the responsibility of landlords.
- Seeking legislation to allow greater data sharing with local authorities and other public bodies to help us manage debt.

Our ongoing activities will be developed as we benchmark good practice and enhance our knowledge of debtors.

The combination of our WaterCare and other initiatives to help manage debt will ensure that customers who cannot pay are assisted and those who will not pay are required to. Having piloted such schemes, we expect that they will be a basic necessity in the future.

### 4.4.2 Affordability

Water bill affordability is increasingly a national problem and national solutions are required. We believe there should be a nationally funded water efficiency savings trust, equivalent to that in place for energy. It would focus on those areas of the country with low incomes and high metering. A national policy on social tariffs is also required from Government.

Targeted initiatives will remain for those who cannot pay including Vulnerable Group Tariffs (WaterSure), providing special assistance to customers to meet their individual needs and our own initiative WaterCare which will help us to help those in the region who are most at risk and least able to pay. We would like to continue to work with the Government and undertake a re-examination of the criteria for the Vulnerable Group Tariffs, in order to expand the number of customers benefiting from it.

## Fact File

South West Water has helped more customers through WaterSure, a vulnerable group tariff, than any other water company, 24% of the industry total despite only serving 3% of the population<sup>10</sup>.

The vast majority of our customers pay their bills but a small proportion of our customers, less than 5%, have difficulty in paying. There is a cost to all customers when people cannot pay and we want to reduce these costs. South West Water will take affordability into account in our plans. We will use the combination of metering, water efficiency and new tariff approaches, as set out in this plan, to help customers with affordability. We will work with Ofwat, CCWater and DEFRA in developing our tariff approaches.

### 4.4.3 Future tariffs

We will be leaders in implementing innovative and imaginative tariffs in the future. New tariffs could provide choice and help drive environmental benefits.

We need to take into consideration incidence effects and would wish to manage tariff changes, so that the impact on individual customers is within reasonable limits. Depending on which future tariffs are selected, we may wish to alter the balance between fixed and variable charges in advance of implementation, to mitigate the resulting incidence effects.

Our criteria for considering future tariffs are:

- Meet sustainability objectives.
- Affordability.
- Income and price stability.
- Minimise cost to serve.
- Optimise collection of charges.
- Consultation with future stakeholders.
- Appropriate billing mechanisms.
- Fairness for different customer groups.
- Easily understood by our customers.

Tariff options include:

- More metering so that all customers pay according to what they use.
- Rising block tariffs.
- Seasonal tariffs for high peak water use to reflect the true cost of provision.
- A nationally funded Water Savings Trust that funds water efficiency investments for metered customers on low incomes.
- Green tariffs to fund water supplied using renewable energy.
- Extended help through vulnerable group tariffs.
- Charges for remaining unmeasured customers.

## 4.5 Choice for customers

We want to offer choice to customers on services and tariffs. We also want to broaden the services that we provide. An example of this would be to offer grey water re-use and rainwater capture systems to meet customer demand for these products.

We will work with others to innovate in providing water and waste water efficiency products to customers. The benefits from lower costs to South West Water would be shared between the innovators of the product and the customer through tariffs. Competition for providing these products to customers would have a role in widening choice.

## 4.6 Competition

For domestic and most commercial customers South West Water is currently a local monopoly. This is because of the social and public health nature of the services that we provide. We urge policy makers to consider the implications of competition for customers in a dispersed and rural area such as ours. Quality regulators such as the DWI and the Environment Agency require performance to be monitored from end to end, from source to tap and sink to sea. Competition should develop in a way that minimises the costs to serve and provides a choice of price and service level to customers. We will respond positively to any changes in the regulatory regime that encourage efficient competition.

## 4.7 People

The speed of change required of South West Water, its employees and partner organisations (enabled by technology) has increased in recent years and will continue to do so. A successful company needs flexibility in its skill set and investment in training, development and staff motivation. Succession planning will play an increasingly important role to ensure that essential skill levels within the organisation are refreshed and linked to our business plans.

We have introduced various development programmes to ensure we have the right balance of skills for the future. These include:

- Progression schemes.
- Higher level NVQs.
- Graduate Programme.
- Senior Management Development Programme.

Delivering the vision we have set out for 2010–2015 and beyond requires us to sufficiently resource and focus people development activities, so that our people are both skilled and committed to understanding and delivering the changes in technology and systems that are essential to delivering our vision.



To help us achieve the goals and vision we will ensure that the skills acquired by our employees meet the business needs of our strategy by integrating our Human Resource strategy as shown above. We will also ensure that these principles and approaches are embraced by our partners so that our customer service culture is consistent.

We will also continue to ensure that we operate in a safe way by setting specific targets and programmes to achieve an accident free and healthy working environment.

# Pure environment

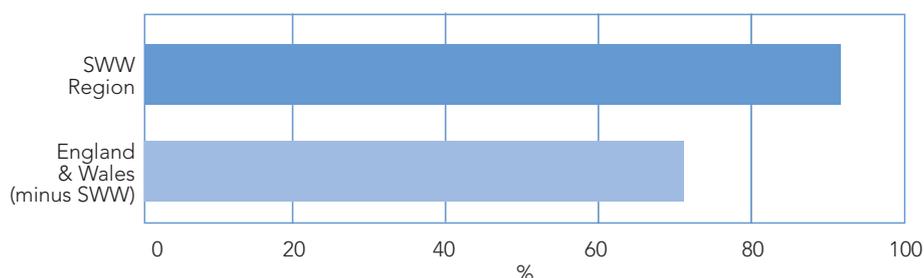
## 5. Pure environment

Our vision is to be environmental leaders in our region. In order to help us achieve this we will:

- Protect the environmental quality of the region, working with other parties to identify any issues and to find the best way to resolve them.
- Ensure that our waste water assets will be odourless and invisible to our customers.

South West Water is vital to the economy of Devon and Cornwall. The excellent quality of the region's rivers and beaches helps to attract large numbers of tourists. During a typical year about 8 million people visit the region. Our lakes and reservoirs are also popular destinations for both visitors and wildlife, through the successful establishment of the South West Lakes Trust, an independent charity, established to provide conservation, public access and recreation facilities.

Percentage of river stretches classified as very good or good quality in 20063



## Fact File

### Waste Water<sup>4</sup>

Properties served	
– Households	613,000
– Non-household	45,000
Population served	1,567,000
Trade effluent consents	445
Daily average of waste water collected megalitres/day	248 megalitres/day
Annual waste water sludge produced dry solid	66,300 tonnes
Number of waste water treatment works	623
Number of intermittent discharges	1,700
Length of sewers	9,100 km

Our inland waste water treatment investment has contributed to the region having the best river water quality in England. In 2006, 91% of our rivers met either the good or very good criteria, as defined by the Environment Agency.

# Pure environment

## 5.1 Climate change

According to the UK Climate Impacts Programme<sup>7</sup>, climate change in the South West is expected to result in:

- Higher winter rainfall, but hotter, drier summers resulting in increased summer demand for water.
- More frequent and intense storm events, resulting in more properties at risk of flooding and an increased frequency of storm overflow operation.
- Rising sea levels, placing some of our assets at risk.

A wide range of external factors influence sustainable investment in our services. We are considering in detail what investments may be required so that we can adapt to the changing climate. We know that this is only the start and that we will need to predict what further actions are required in the future. Some changes are essential so that we can start adapting now.

Most scenarios<sup>7</sup> predict that there will be more intense periods of winter rainfall. Therefore, we can identify those areas of our infrastructure which currently have regular problems with hydraulic overloading and run-off inundation. We anticipate that major investment will be required between 2015–2030 as the challenges we face to adapt to climate change become clearer. We believe this approach best protects the customer and offers best value. It is also important that we do not take undue risks with the level of capital maintenance required to maintain serviceability in the 2010–2015 period.

In relation to our operations we have already started to adapt and we have coped with the changes in weather patterns so far experienced through better leakage performance, pumped storage of the winter rainfall from local rivers to top up reservoirs and by increasing our expenditure on monitoring the waste water network. However, as an example, pumped storage of raw water and storm water storage increases our carbon emissions. We will need to balance carefully our approach to minimising them.

As more is known about the effects of climate change, we can make judgements on the best way of dealing with the impact. For example, where there are places that currently have capacity problems, for instance caused by new development, we should create headroom with new investment to cope with climate change in 2010–2015 rather than waiting until later.

Other problems caused by climate change will require investigation. However, we already know of some areas where schemes are needed now to combat the effects of climate change.

We would also be concerned if the consents at our works, where there is currently headroom, were tightened in a way that reduced operational flexibility without careful consideration of the wider environmental benefits.

# Pure environment

## 5.2 Zero pollution incidents

South West Water has a goal of zero pollution incidents from our facilities. The company has one of the best records in the industry for avoiding the most serious (category 1) pollution incidents<sup>4</sup>.

In order for us to achieve our objective we are embarking upon a number of initiatives:

- Puros is a project which will allow us to predict and then prevent pollution incidents wherever possible by investing in technology to remotely monitor and control our assets.
- Sewers for Sewage is an initiative designed to combat sewer flooding and has identified that many flooding events are caused by either hydraulic overload or blockages. Therefore, we are embarking on a number of projects to ensure that unwanted material does not enter the sewerage system and the hydraulic loading on them is managed.
  - Fat, oils and grease and food waste cause most of our blockages, up to 75%.
  - Unwanted solid materials e.g. nappies and garden waste cause blockages.
  - Storm and Highway drainage separation from sewers.
- Investing in our pumping stations to prevent storm overflows into the most sensitive environments such as shellfish waters and bathing waters.

However, we cannot achieve this alone and we need to work in partnership with other organisations and our customers.

Some of this can be achieved through the education of industry and customers. Other areas will need significant work to separate out storm and drainage water from our systems.

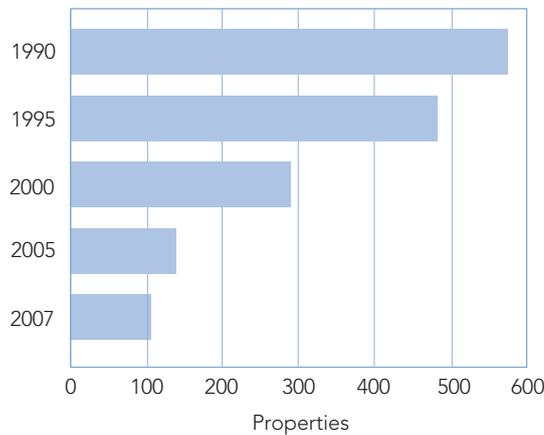
Pressure to reduce the amount of waste going to landfill means that disposal of food and garden waste to sewers may increase. Greater volumes of waste arriving in sewers will increase the number of blockages and their associated pollution incidents. We will work with local authorities to minimise this risk. We have increased our investment in sewer cleansing in recent years and expect this to continue in the future.

## 5.3 Sewer flooding

We have been working very hard over the last ten years to reduce the problem of internal flooding of properties by sewage. Now there are very few properties in the South West Water region that suffer from this. However, we recognise that internal sewer flooding is an extremely unpleasant experience as well as a potential health risk. We believe that this is unacceptable in the 21st century and we will be working even harder to eliminate it from the remaining small number of properties. The Sewers for Sewage initiative will help achieve this. The adoption of private sewers provides us with another opportunity to help address this problem, but this needs to be undertaken at an affordable rate.

# Pure environment

Properties at risk from sewer flooding<sup>4</sup>



## 5.4 Private sewer adoption

The Government has announced that it intends the water and sewerage companies adopt and maintain private sewers and drains up to the boundary of customers' properties at some point after 2010. At the moment many customers are currently responsible for their pipes until they reach our sewer, which is often in the middle of the road.

In common with all other obligations impacting on our customers, we believe that their views on the benefits and additional costs of adopting these assets should be taken into account, as the adoption would increase the costs we would have to recover from all of them. There would be operational advantages in the transfer as it would help us to achieve our goal of zero pollution incidents. There would also be benefits to nearly all of our waste water customers from the adoption of drains in the highway. The resultant increase in charges needs to be considered in the light of other needs and priorities for investment at PR09 and beyond.

## 5.5 Urban drainage

In order to help achieve our goal of zero pollution incidents we will need to separate road and highway drains from sewers in critical areas. We will be looking to put forward proposals for the highest priority areas in PR09 along with developing catchment plans during 2010-2015.

We have been actively engaged in DEFRA's national pilot project conducted in the Camborne and Torbay areas. We have worked with the Environment Agency, local authorities and other stakeholders with interests in seeking to develop sustainable solutions to urban drainage problems. Through this, we aim to reduce surface water inputs into combined systems, reduce flood risks from surface water systems, provide additional future capacity for foul sewers and protect the local environment. The adaptation required to accommodate the problems caused by climate change need to be included as the intensity of rainfall will increase. This will lead to short duration "flash" floods as a result of the topography of the region. We will also need to invest in our waste water treatment

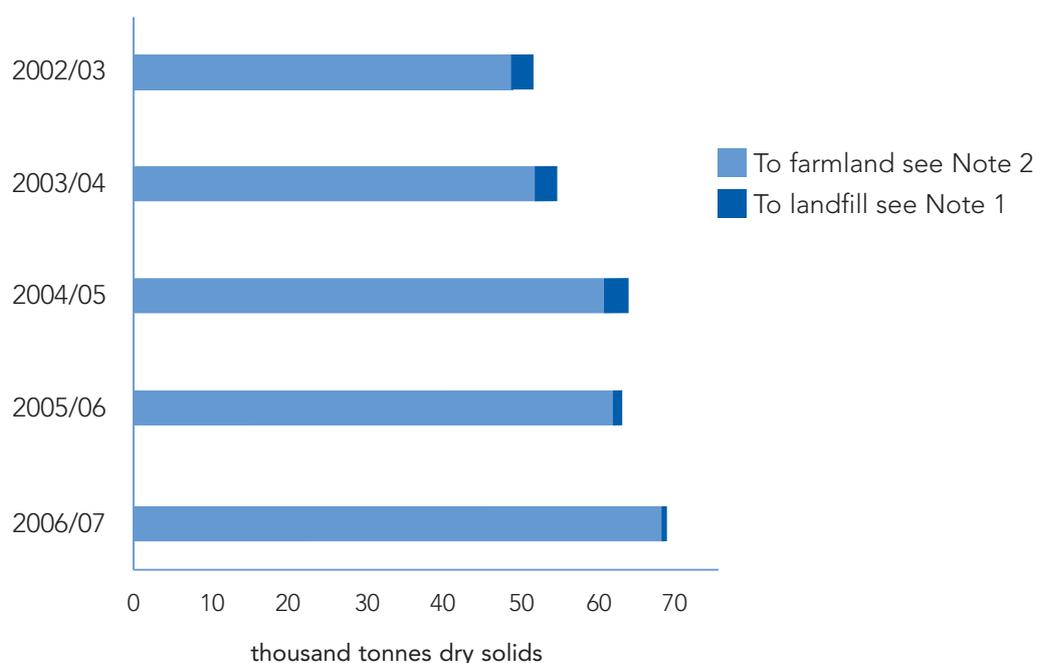
# Pure environment

works so that they can cope with the change in the nature and volume of influent. The results of these pilots will inform our future investment plans for our sewerage networks and waste water treatment works.

In the long term, changes in legislation will be required to clarify drainage responsibilities; particularly where highway and surface water run off is responsible for overloading sewers beyond their designed capacity. The alternative, particularly because of climate change, may be significant and expensive upgrades to the capacity of South West Water's assets. Clarifying ownership for Sustainable Urban Drainage Systems (SUDS) may well require specific legislation in the future. Such systems represent an essential adaptation strategy for coping with climate change.

## 5.6 Sludge recycling

South West Water remains committed to the agricultural recycling of sewage sludge and to protecting this sustainable recycling route. However, we are investigating other options should they become necessary, as we believe that retaining a flexible and sustainable approach will be essential. Waste to energy is an alternative that may need to be considered in order to provide flexibility and help with reducing the carbon emissions from our sludge processes. We also intend to investigate whether biofuels can be produced using our sludge as a long term sustainable solution.



Note 1. Biosolids to landfill includes grit and screenings

Note 2. Biosolids to farmland includes process loss

## 5.7 Catchment management, biodiversity and diffuse pollution

Restoration of wetlands and biodiversity corridors in the catchment contributes to the “landscape scale” planning approach that our environmental partners encourage. This will produce better environmental outcomes in the long run, compared to focussing on end of pipe solutions that concentrate on absolute chemical and microbiological standards and require the intensive use of expensive energy and chemicals.

We have started working with a range of stakeholders and farmers in the Tamar Lakes catchment to manage the impact of the run-off from the fields into the reservoirs. We consider that this is a long term, cost effective and pragmatic approach to a problem which would otherwise require extensive modification to the treatment process resulting in increased operating expenditure and carbon emissions. This approach should be replicated in other suitable catchments where it can be shown that land management activities, including farming, has an impact on the raw water, as it provides a sustainable solution to the problem with greater benefits to the surrounding environment and reduced cost to our customers.

The cost to our customers of such schemes has been low compared to the alternatives. Further schemes such as Upper Tamar are likely to be required during 2010–2015 where we can avoid the need for more expensive projects, particularly where the good status of the catchment is at risk under the Water Framework Directive or there is a risk to drinking water identified in our Drinking Water Safety Plans. These schemes also help us to plan for sustainable water resources in the future, especially where pumped storage schemes such as at Roadford may be required in our Water Resources Plan. Sustainability, taking into account the potential effects of climate change, may also justify this type of approach in the near future if we wish to avoid subsequently highly capital intensive and high carbon investments.

## 5.8 Carbon footprint

South West Water will aim to meet the carbon reduction targets that emerge from the developing national framework. Our carbon emission footprint is dominated by our pumping and sludge treatment activities.

All future schemes, including those brought forward under the Water Framework Directive and similar directives, will need to have the carbon emissions footprint quantified. We are extending our analysis tools to take into account embedded carbon from capital investments, operational carbon and decommissioning carbon. This will allow us to take an informed view to be taken on the most sustainable solution for a particular investment. Where increased energy use is unavoidable, generating renewable energy will be considered as part of the scheme.

We will also review our existing assets and activities to ensure that energy efficiency and carbon emission reduction investment is highlighted. Over the last 18 years much of our investment has been driven by quality regulations requiring brand new facilities. This has resulted in a significant increase in our power and chemical usage and it means that our waste water operation is an outlier in terms of its carbon emissions. Until the completion of Clean Sweep our carbon emissions will continue to grow rapidly.

In many instances our ability to provide the most energy efficient solution has been governed by the need to meet local planning and environmental requests. As part of a pragmatic approach, the Regulators and Planning Authorities must consider these factors when they are making decisions. We will work with them to look at these factors along with any potential to balance regulations and standards under certain conditions. The Environment Agency are already doing this in relation to the two new town developments in our region

Providing extensions to incentives would allow further investment and development in order to achieve the carbon emission targets. In preparation for this we can compare energy use and carbon emissions for our operational sites against industry benchmarks.

The South West Water region has an abundance of natural resource for renewable energy which we would like to exploit as much as possible. This would contribute to achieving the Government's target for increasing renewable energy generation and reducing carbon emissions.

### Fact File

Since April 2006, approximately 7% of our total electricity used has been produced from renewable sources.

In 2006/07, we generated 5.75% of our own renewable energy from our Combined Heat and Power (CHP) and hydroelectric plants.

Due to the topography of our region, our 1000 water and sewage pumping stations have to overcome an average lift of 160m, which is amongst the highest in the industry.

# Pure environment

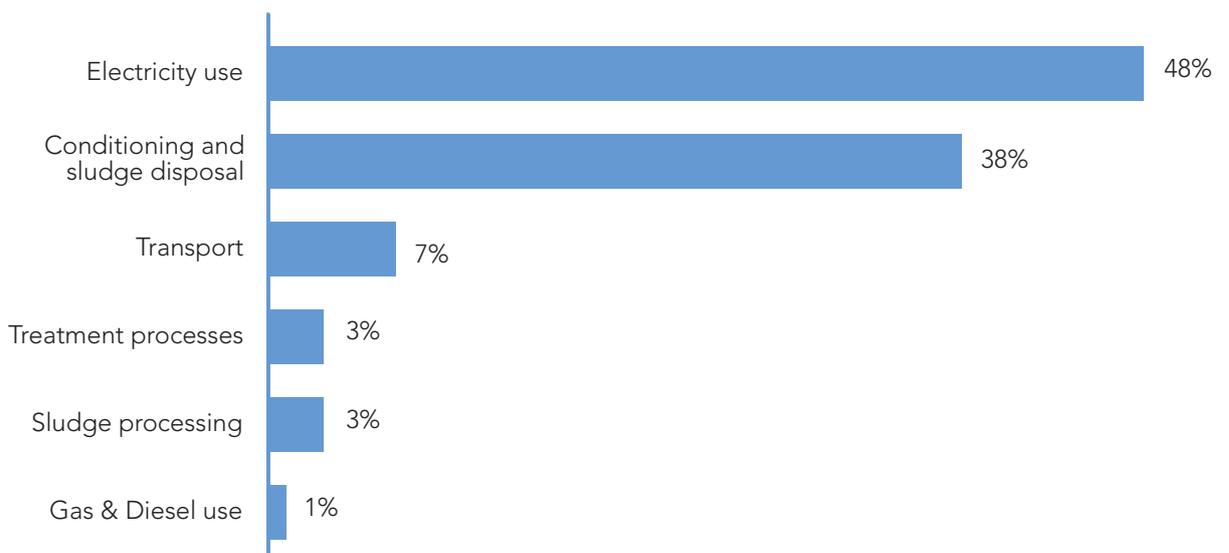
South West Water is one of the largest users of energy in the region so we must make generating renewable energy part of our long term investment plans. Because of our location, there is great potential for the development of wind power so that we can use it on site and reduce the amount of electricity that we import from the national grid.

We currently have a number of hydroelectric installations at our works and we would like to develop the full potential at all of our sites, with sufficient volume and pressure, for use on site.

Combined Heat and Power (CHP) generation also offers another opportunity for us and we would like to install more units; this also reduces the sludge volume that has to be transported to agricultural land by up to 30%.

We are also involved in a project which is looking at growing renewable energy crops as part of our tertiary treatment processes.

South West Water Carbon Emissions Footprint?  
199 thousand tonnes of CO<sub>2</sub>e in 2006



This carbon footprint also includes the benefit that farmers receive by using our sludge. This reduces their overall carbon footprint as they do not need to use as much artificial fertiliser on their land, reducing manufacturing and delivery impact.

# Key messages

## 6. Key messages

In this document we have set out our achievements to date, our vision for the future and our strategy for pursuing this vision. The following are our key messages:

- For customers:
- We want prices for 2010–2015 to be as stable as possible.
  - We will improve the services that customers experience.
  - Compulsory investments will be lower than at previous reviews, allowing customers more choice about service elements.
- For stakeholders:
- We will work in partnership with others to protect the environment now and in order to avoid expensive compulsory investments in the future.
  - The balance between environmental improvements, service improvements and prices at PR09 must reflect our customers' views.
- For investors:
- Give a fair return for their investment from a soundly financed business.
- For Ofwat:
- We want PR09 to take a long term view of our strategy for services to customers and our policies on issues such as environmental stewardship.
  - We need to work together on the development of new tariffs.
  - Recognise our very recent shift in emphasis to maintenance and away from the delivery of new assets, now that the Clean Sweep programme has been completed.
- For Government:
- We need to consider the value of further quality requirements and private sewer adoption carefully.
  - Policy decisions on competition and social tariffs are important to support the delivery of services.
  - The regulatory systems should be developed to provide appropriate incentives to meet the Government's sustainability objectives.
  - The DEFRA water strategy should require more resilience in public water supply in order to take into account the emerging impact of climate change.

# Data sources

## 7. Data sources

- 1 Turquoise Thinking – South West Water Long Term Customer Tracking Surveys
- 2 Drinking Water Inspectorate – Chief Inspector’s Annual Report
- 3 Environment Agency
- 4 Ofwat June Return data
- 5 Turquoise Thinking – South West Water Customer Research for PR09
- 6 Devon, Cornwall, Somerset and Dorset County Councils Structure Plan estimates
- 7 South West Climate Change Impacts Scoping Study  
[www.ukcip.org.uk/climate\\_change](http://www.ukcip.org.uk/climate_change)
- 8 South West Water Business Plan – PR04
- 9 South West Water data
- 10 Ofwat – [www.ofwat.gov.uk/](http://www.ofwat.gov.uk/)

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