

July 2015

# Reliable services for customers – consultation on Ofwat's role on resilience



[www.ofwat.gov.uk](http://www.ofwat.gov.uk)



## About this document

The purpose of this consultation is to invite views on how we take forward the primary duty to further the resilience objective<sup>1</sup>, which we gained through the Water Act 2014. Resilience is important in the water and wastewater sector because customers, society and the environment rely on the services it provides, and will continue to rely on them as risks and pressures change.

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<sup>1</sup> The ‘resilience objective’ is set out in full in appendix 1, and can be summarised as securing the resilience of both water systems and services, in the long term, making clear that this not only includes issues of supply but also embraces demand.

## Responding to this consultation

We welcome your responses to this consultation by close of business on **28 August 2015**.

You can email your responses to [resilience.consultation@ofwat.gsi.gov.uk](mailto:resilience.consultation@ofwat.gsi.gov.uk) or post them to:

Resilience Consultation  
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Centre City Tower  
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B5 4UA.

Information provided in response to this consultation, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FOIA), the Data Protection Act 1988 and the Environmental Information Regulations 2004.

If you would like the information you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory 'Code of Practice' with which public authorities must comply and which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on Ofwat.

## Overview and consultation questions

### Overview

In this document, we set out our approach to resilience.

In chapter 1, we explain what we consider is the best way to describe 'resilience' in the water and wastewater sector in England and Wales. We also describe why it matters to customers, to society and the environment, and to Ofwat. In chapter 2, we set out some expectations around what we think that means for our role. In chapter 3, we consider the challenges and opportunities for providers of resilient water and wastewater services. Chapter 4 sets out how we think this translates into the behaviour we should encourage in the sector, through ten principles. Finally, we outline next steps.

This document also includes examples of our current thinking, in the context of our new resilience duty. For example, in our 'Towards Water 2020' discussion paper published later this month, we will consider:

- how to better focus services providers on the longer term – for example, by enabling longer-term incentives ('outcome delivery incentives' – or ODIs – at the 2014 price review) beyond the price review period and scope for longer-term price control periods;
- how the needs of future customers can be best accounted for in our regulation;
- how best to reflect in customer engagement, and the assurance companies provide to us on that engagement, the need for resilient services and systems, including ecosystems;
- how markets can be best used to inform, enable and incentivise more sustainable, efficient approaches – for example in the treatment and disposal of sludge, a by-product of wastewater treatment; and
- how we can further encourage trading between service providers so that it underpins resilience of services and systems, including ecosystems.

Throughout the document we highlight examples of existing good practice in the water and wastewater sector to deliver resilience.

## Consultation questions

We welcome your views on the following consultation questions.

### Consultation questions

**Q1** Is our basic understanding of resilience aligned with your own – are we addressing the right things in the right way?

**Q2** Do you agree with our view of what Ofwat should deliver, including where we might step in, and what is for others to deliver?

**Q3** What views do you have on how the water and wastewater sector might measure its performance in delivering resilient services – and the best way for us to demonstrate that we are carrying out our role?

We will use your responses to our consultation questions to make sure that:

- our understanding of what resilience covers is robust;
- our approach to resilience takes into account your views;
- we have enough of the right information and tools to effectively discharge our statutory (legal) duties, including the new resilience duty;
- our wider policy work is aligned with our overarching approach to resilience. This includes, for example, our work to:
  - develop the framework for the next price review;
  - support the development of markets; and
  - monitor and assure the finance and governance of water and wastewater service providers<sup>2</sup>.

We also welcome your views on any other aspect of this consultation. And responses to our 'Towards Water 2020' discussion paper to be published later this month.

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<sup>2</sup> In this document, we refer to water and wastewater service providers rather than companies, because that is their developing role, and it stretches beyond the original monopoly companies.

## 1. Trust and confidence in water and wastewater services – the importance of resilience

Our strategy, 'Trust in water' is built on a vision for the sector of trust and confidence in the provision of water and wastewater services, now and in the long term. The resilience of these services is a critical part of this. Customers want confidence that clean, safe drinking water will be reliably available and that they can rely on their wastewater being taken away. They may not call this 'resilience', but resilience **is** 'reliability' in the broadest sense, and that is the way in which we are using 'reliable' in this consultation. Society needs confidence that these services will be provided today and in the long term, without compromising the natural environment, and more widely that decisions taken today will not impoverish future generations.

Our strategy reflects our statutory duties. We have long had a primary legal duty to protect consumers, wherever appropriate by promoting effective competition. We also have a duty to ensure that efficient companies can finance their functions. The Water Act 2014<sup>3</sup> gave us an additional duty, to further the 'resilience objective', which is defined as securing the resilience of both water systems and water services, in the long term, making clear that this not only includes issues of supply but also embraces demand.

Even before the Water Act 2014 gave us our new duty, we have promoted resilience in a number of ways. For example, our approach to the 2014 price review (PR14)<sup>4</sup> is widely acknowledged across the sector to have enabled service providers to focus on what their customers want and can pay for, now and in the future – rather than being locked into less flexible, sustainable, or resilient approaches. Our approach to PR14 also directly encouraged service providers to focus on resilience, as this was clearly reflected in the customer priorities revealed in the most extensive customer engagement programme the sector has ever known.

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<sup>3</sup> <http://www.legislation.gov.uk/ukpga/2014/21/contents>

<sup>4</sup> In December 2014, Ofwat issued its final determinations for PR14, setting out what water and wastewater service providers can charge their customers for water and wastewater services between 2015 and 2020, the 'outcomes' they have agreed to deliver, and the rewards and penalties attached to those outcomes. At PR14, we introduced the concept of outcomes for the first time, putting customers at the heart of the process. We also moved to a total expenditure ('totex') approach on costs and investment, moving away from favourable financial treatment for capital expenditure ('pouring concrete' approaches).

## 1.1 What customers want, need and rely on

Customers pay for services from their water and wastewater service providers. Day-to-day, the ones they rely on most are:

- having clean, safe drinking water when they turn on the tap; and
- having their wastewater taken away.

The health and wellbeing of household, non-household and other business customers depend on this – as does wider society. And customers also care about, and rely, on many other water and wastewater services – including protecting the environment.

### Resilience in action – case study

Affinity Water agreed with the Environment Agency to reduce the volume of water it took from the environment ('abstracted') by 5% or 42 million litres a day, by 2020. Customers told Affinity they wanted to see more effort made on managing demand, rather than sourcing new supply, in meeting this target. This approach reduces pressure on the ecosystem on which Affinity relies for its water supply, improving resilience. As a result, it is working with customers to help them reduce the volume of water each of them uses by ten litres a day and reduce leakage by 14%, the largest percentage reduction in the sector. It will do this while keeping average bill increases below the rate of inflation.

Recent examples of adverse weather that have led to significant floods, drought, and sewer flooding have helped inform both service provider and customer views on service resilience issues across the sector.

### Resilience in action – case study

Yorkshire Water has experienced a number of issues over the past ten years that have made it think about what being resilient or increasing resilience means for customers. These include the:

- summer floods of 2007, which led to flooding of a wastewater treatment works and household properties in Hull;
- cold winters of 2009-10 and 2010-11, when high levels of mains bursts led to increased levels of leakage and loss of supplies; and
- dry springs of 2011 and 2012, which put its new cross-company supply grid to the test.

Yorkshire implemented a new approach to incident management in November 2011, which has been:

- benchmarked as gold standard;

### Resilience in action – case study

- cited in the annual Security Emergency Measures Directive audit as an excellent example of industry best practice; and
- aligned to Crisis Management PAS200 standard.

Yorkshire considers that communication with customers before, during and after an event is of equal priority with urgently addressing the issue. This was demonstrated during a 2014 flooding event when the company used text and email to warn customers of possible disruptions and keep them updated on progress.

It was clear from the conversations water and wastewater service providers had with their customers during PR14 that customers care very much about these services continuing to be provided reliably and on demand.

So continuity of service is an important element of resilience – not just for current customers, but for customers in decades to come. And we also know that customers want the environment to be protected now and for future generations – another element of resilience. Finally, it is important that the providers themselves are resilient – financially and corporately – so that they can continue to serve customers.

### Customer priorities

In the run-up to PR14, research showed that:

- 99% of Anglian Water's customers felt that providing safe, reliable, clean drinking water was an important aspect of its service;
- 82% of United Utilities' customers supported financial incentives to reduce supply interruptions;
- more than 60% of Thames Water's customers suggested that they are concerned about the environment and give a lot of thought to environmental issues; and
- 85% of Wessex Water's customers thought that protecting rivers, lakes and estuaries was an important element of its business plan.

## 1.2 The importance of trust and confidence

Being able to rely on continued water and wastewater services underpins customer trust and confidence, both in their service providers, and in how the sector works more widely. This is a cornerstone of our strategy. It is important to customers, and it is important to us.

We think that trust and confidence depend on two things.

- The outcomes that customers, the environment and society experience.
- The relationships across the sector, most crucially the ones between customers and service providers.

Customers expect their service providers to build honest, open and responsive relationships with them. Research<sup>5</sup> shows that customers' priorities are:

- that the services they use directly will be provided on demand – they turn on the tap and get clean, safe drinking water and their wastewater is taken away;
- that the environment will be protected, and where the sector has to deal with wastewater or take water from the environment, this is done wisely; and
- that the less fortunate in society will be helped, in a way that is fair.

#### Resilience in action – case study

A spell of extreme weather during Christmas 2013 and early 2014 led to an unprecedented challenge for South East Water, the level of which had not been seen since the 1987 hurricane. Storm force winds, torrential rain and flooding took its toll on the network and resources and South East worked hard to keep customers' taps flowing.

Challenges included:

- a fallen tree blocking access to a site;
- power outages; and
- no water on Christmas Day.

Previous investment in flood protection at water treatment works and boreholes meant that while many parts of the region suffered from flood damage, South East was still able to supply its 2.1 million customers. It used twitter to keep customers informed during the incident, including on Christmas Day. Customers appreciated this proactive approach and tweeted their thanks.

Customers also want these priorities to be affordable and provided over time – meaning not only in the short and medium term, but also well into the future. And PR14 showed that they have views on the quality and standard of service, weighed against cost – for example, on drinking water, some customers want higher standards of taste, colour and water pressure than others, and higher than mandatory standards.

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<sup>5</sup> By service providers during PR14.

Different customers and customer groups have different priorities, including over time. The customer research service providers carried out during PR14 revealed significant differences, some of which are relevant to resilience.

### Customer priorities

Research carried out by Severn Trent Water during PR14 showed some interesting differences between socio-economic groups on resilience and environmental priorities.

Sixty-eight per cent of households with income below the poverty line thought it quite or very important that Severn Trent had a target to tackle leakage, against 72% of households below average income and 84% of households above average income.

Seventy-two per cent of households with above average income thought it quite or very important for Severn Trent to tackle river water quality, against 70% of households below average household income and 62% below the poverty line.

## 1.3 So what do we mean by 'resilience'?

We want to build on existing understanding rather than create new definitions. We are guided and informed by the wording of the duty and current UK and Welsh Government resilience policy and guidance, which we summarise below.

The [Water Act 2014](#) adds a new duty to our primary duties: to 'further' **the resilience objective** (in England and Wales). It highlights the need for long-term resilience of water and wastewater systems and service provision when faced with increasing external stresses, such as environmental pressures, population growth and changes in consumer behaviour. It also highlights the need to:

- promote long-term planning and investment, and the use of a range of measures to manage water resources in sustainable ways; and
- increase efficiency in water use and reduce demand for water to minimise pressure on water resources.

We set out the full text of the duty in appendix 1. The UK and Welsh Governments consulted widely on this duty. It built on [Water for Life](#)<sup>6</sup> (2011), the White Paper which set out the Secretary of State's vision for a resilient water sector in England. The guidance we receive from both the [UK](#)<sup>7</sup> and [Welsh](#)<sup>8</sup> Governments on our strategic priorities and objectives also requires us to incentivise and enable resilience in the sector.

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<sup>6</sup> <https://www.gov.uk/government/publications/water-for-life>

<sup>7</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221043/pb13884-sps-seg-ofwat-201303.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221043/pb13884-sps-seg-ofwat-201303.pdf)

[Keeping the Country Running](#) (2011) is the current UK Government guidance on resilience. It considers resilience as the ability of assets, networks and systems to anticipate, absorb, adapt to and/or rapidly recover from a disruptive event. It also sets out that there are different ways in which resilience provision can be delivered. These are categorised as:

- **redundancy** (avoiding dependencies on single assets);
- **resistance** (proofing the system so that it is resistant to known risks – for example, flood defences or access procedures);
- **reliability** (a system that operates effectively, irrespective of whether or not risks materialise – for example, design standards); and
- **response/recovery** (the ability to recover quickly so that service is not unduly impacted – that is, tested procedures and appropriate resources).

The [Well-being of Future Generations \(Wales\) Act](#) (2015) sets out a ‘resilient Wales’ as one of seven wellbeing goals. It defines a resilient Wales as a nation that maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example, climate change). The [Water Strategy for Wales](#) and the [Environment \(Wales\) Bill](#), both published by the Welsh Government in 2015, set out the principles of ecosystem resilience.

In this context set out above, and relating to the water and wastewater sector, our working **definition of resilience** is as follows.

**“Resilience is the ability to cope with, and recover from, disruption, trends and variability in order to maintain services for people and protect the natural environment, now and in the future.”<sup>9</sup>**

This will inform all our work.

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<sup>8</sup> <http://gov.wales/docs/desh/publications/140512watersocialenvironmentalguidancetoofwaten.pdf>

<sup>9</sup> This is the definition that the independent Task and Finish Group on resilience has proposed.

## 1.4 Making sure services and systems are resilient

Services will only be resilient if the systems that underpin them are resilient. The resilience of any system depends not only on each element within the system, but crucially on the links between those different elements. The overall system on which water and wastewater services depend is a complex one. It includes many different things – not only the infrastructure and networks that service providers own, maintain and operate, but also ecosystems and financial systems. Customers themselves are part of this system. We expect them to become increasingly integrated into it as they become more engaged, more empowered and better incentivised to change the level and pattern of their demand – how ‘much’ of the services they will require.

### Corporate resilience

The choice of financial structure is a matter for service providers and their investors. They bear the risk associated with it. But the choices they make can affect a service provider's resilience. For example, high levels of debt (that is, ‘gearing’) and complex ownership structures can introduce rigidities, which can make it harder to change financial structures and ownership. This in turn makes the company less able to respond to change and therefore less resilient. We would welcome views on this.

To provide resilient services, service providers therefore need to have strong and effective relationships with:

- the householders, businesses and third sector customers (for example, charities and local authorities), who pay for the water and wastewater services they use;
- those who use and enjoy rivers, canals, beaches and other water – the resources that service providers use to deliver services, including for business or leisure;
- investors that enable the financing of business plans and service delivery, making sure customers do not face unnecessary risks;
- organisations that ensure customers and the environment are protected – including locally and nationally elected bodies and regulators;
- the manufacturers and contractors they work with and rely on to provide services, at every level; and
- each other.

### Resilience in action – case study

In 2009, Bournemouth Water identified the need for an East/West link main to increase the resilience of its water network, at a cost of around £6 million, which we considered too high. In parallel, Wessex Water needed additional capacity in the Poole area to improve resilience in the event of an unexpected supply interruption, and originally planned to provide this by redeveloping a water treatment works. Bournemouth and Wessex jointly explored alternative approaches to meet their resilience objectives by maximising the use of existing assets and water resources in the Poole, Bournemouth and Christchurch areas. In 2013, they signed a water supply resilience agreement. This allows the transfer of up to 15 million litres of water a day between Bournemouth's two main sources of water through an under-utilised Wessex main that runs across Bournemouth's area, as well as enabling mutual support in the case of an emergency. The agreement provides a more resilient water service to the customers of both companies, at greatly reduced cost. Bournemouth's investment at under £1 million was around £5 million less than the original projected cost. The project forms part of Wessex's water grid, an eight-year plan to improve resilience and meet abstraction licence reductions. Wessex made savings of £34 million through a combination of the trading agreement with Bournemouth and other improvements to the network.

Trust underpins those relationships. It drives customers' willingness to pay and helps to finance investment. It is also central to the understanding of which services are being protected and how.

The need for service providers to make sure systems and services are resilient is not new. Water and wastewater companies have been delivering services in the face of challenges to resilience issues for decades.

### Resilience in action – learning from experience

Resilience is not new to Ofwat or the water and wastewater sector. It was brought into stark relief after the 2007 floods. These had significant impacts on both water and wastewater services. In the Gloucester area, for example, 350,000 customers had no water supply for up to 16 days. And a wastewater treatment works in Sheffield, which serves more than 500,000 customers, failed.

But this has often involved investing in concrete networks and systems – such as pipes and reservoirs. There are many risks to providing current and future services – these require a mix of approaches, including some that are more flexible than in the past. Some of these risks are clearly visible now, and already changing and increasing – for example, environmental pressures, population growth and changes in consumer behaviour, which are included in the wording of our resilience duty, and the impacts of climate change.

But service providers need to plan beyond the more obvious pressures – such as drought or flood, or pressures from rising demand. True resilience planning is asking a series of ‘what if?’ questions and then considering the response in different circumstances. Not every risk to service provision needs to be, or should be, mitigated away. But these risks need to be identified, understood and managed in a cost-effective way.

### Resilience in action – case study

Severn Trent Water worked closely with its customers to develop the Birmingham Resilience scheme for 2010-15 – its biggest-ever single investment. Regardless of where customers lived in the region, research highlighted that they thought ‘something’ needed to be done to make Birmingham’s water supply more reliable and resilient. Severn Trent identified and understood risks to the outcomes its customers wanted, and considered different options to find the most cost-effective way to tackle those risks in the long term. It carried out three separate rounds of customer research to test acceptability as it developed its proposals. Birmingham’s water supply comes from Wales along the Elan Valley Aqueduct, and the new scheme will allow the aqueduct to be taken off line for essential maintenance to ensure resilience of supply.

## 1.5 Listening to you

We want to understand more fully how the way in which we further the resilience objective should develop so that it can be most effective – taking account of our mix of duties. We also want to understand how this should inform every aspect of our regulation. This is why we are consulting – in the spirit of our strategy, we are keen to gather views. We have some ideas of our own, but we want to hear yours too.

We think that now is a good time to have that discussion, as we think about encouraging service providers to do more for less and make better use of resources. This includes through better use of markets and through the way we regulate – for example, at the next price review. It also includes making sure that the retail market, which opens in England in 2017, delivers what customers want (and that we protect customers in Wales that will not be able to choose their service provider). And it includes how we handle our investigations, and how we gather and share information so that others can hold service providers to account and ensure that we remain an effective safety net.

We will use your feedback to inform our approach to resilience in all our work, and will set out our final approach towards the end of 2015.

## 1.6 Task and Finish Group

We have set up an independent ‘[Task and Finish Group on resilience](#)’, chaired by Waterwise’s Managing Director Jacob Tompkins, to consider key resilience issues in water and wastewater.

The group is independent of Ofwat, and brings together voices and expertise from across and beyond the sector. It is also engaging with specialists and experts beyond its core membership. The ideas of the group will be crucial in helping us develop our thinking. But the group is also stimulating debate, ideas and recommendations for the whole sector on how it can meet resilience challenges.

The group’s work to date has informed this consultation. Its final report will be published in the autumn, to inform our approach to resilience in all our work.

The group has agreed the following definition of resilience.

**“Resilience is the ability to cope with, and recover from, disruption, trends and variability in order to maintain services for people and protect the natural environment, now and in the future.”<sup>10</sup>**

The group is engaging across and beyond the sector.

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<sup>10</sup> We are using this as our working definition.

## 2. What is Ofwat's role?

### 2.1 What we should be doing about resilience

We need to make sure that we are creating a framework that enables, incentivises and encourages the sector to deliver the resilience its customers want and need – in innovative, efficient and sustainable ways. We also need to make sure that this framework creates the right regulatory climate for service providers to plan and invest for resilient services now and in the future. And we need to act as the safety net for customers.

We need to help set out expectations on the sector about resilience, by provoking, encouraging and enabling service providers and others to step up to meet those expectations, and by being ready to step in when they do not.

We will need flexible regulation that enables service providers to respond to the specific challenges they face in their areas. And we will need to know that they:

- have taken their customers' views on resilience into account;
- are working to deliver for their customers, the environment and society; and
- are managing their businesses for the long term.

This will mean that we can step in and take action where this is not the case.

#### Ofwat's role

Our role is to create the right regulatory framework to enable, incentivise and encourage service providers to plan and invest for resilient services now and in the future. Where they fall short in doing this, we will step in to provide a safety net for current and future customers.

And we must make sure that our work helps the sector build the trust and confidence their customers and others need, in the continuity of service – and in protecting the environment. Our role in resilience fits within this wider framework of responsibilities to customers, the environment and society.

We recognise that the duty requires us to **further** the resilience objective (alongside our other duties).

## 2.2 How we will do it

In this consultation, and through other documents we publish this year, we will try and make clear what ‘resilience’ means for the sector and the types of risks and opportunities that service providers should consider. We recognise the importance of doing this in good time in the run up to the next price review (PR19).

We will take this work forward in the context of what we have all learned in the past few years, and our vision for the sector of trust and confidence in water and wastewater services. This means:

- customers will remain at the heart of all decision-making;
- service providers will own their own plans and manage their own risk; and
- the focus will be on what service providers deliver, rather than the specific activities they carry out, or the equipment they require to deliver it.

We will reflect the need for resilience (alongside our other duties) in how we use our regulatory tools – in all our work. We will consider how we can best encourage service providers to focus on their customers over the longer term, and how we require them to consider resilience in the next price review. We will regulate in a way that promotes the development and better functioning of markets – markets can support resilience by ensuring a wider choice of providers and resources, allowing greater flexibility and sustainability. We will continue to refine our approach to the information we gather from service providers, including on finance and performance, to ensure this helps us incentivise and encourage resilient planning. We will drive further improvements in leadership and governance in the sector, to underpin corporate resilience.

Some other ways we might enable, incentivise and encourage resilience in the sector are as follows.

- **Helping to improve understanding** of resilience risks and opportunities.
- **Helping to ensure coherent links** between our price reviews and other planning frameworks.
- **Challenging and prompting the sector** to take ownership of how they deliver resilient services, with customer views at the heart of this.
- **Incentivising quality long-term planning and appropriate investment** to deliver resilient services.

- **Promoting sustainable management of water resources, and good practice** in delivering resilient services.
- **Making sure our work contributes to all our primary duties**, including resilience.
- **Setting out expectations for the sector** on planning and behaviour.
- **Setting minimum standards for the information required from service providers**, to help us assess whether our expectations are being met.
- **Stepping in to protect customers** when service providers fall short.

We set out below further examples of our current thinking, in the context of our new resilience duty. In our 'Towards Water 2020' discussion paper published later this month, we will consider:

- how to better focus services providers on the longer term – for example, by enabling longer-term incentives ('outcome delivery incentives' – or ODIs at PR14) beyond the price review period and scope for longer-term price control periods;
- how the needs of future customers can be best accounted for in our regulation;
- how best to reflect in customer engagement, and the assurance companies provide to us on that engagement, the need for resilient services and systems, including ecosystems;
- how markets can be best used to inform, enable and incentivise more sustainable, efficient approaches – for example in the treatment and disposal of sludge, a by-product of wastewater treatment; and
- how we can further encourage trading between service providers so that it underpins resilience of services and systems, including ecosystems.

It will be equally important that we use our voice as the independent economic regulator, and protector of a good deal for customers, to:

- influence the debate;
- hold up examples of where service providers are working well with customers to address the challenges of resilience; and
- shine a light on poor practice.

This fits well with our wider strategy – which involves driving transparency.

Throughout this consultation, we set out examples of good practice in the water and wastewater sector already (and will publish further examples on our website).

## Ofwat’s duties

When we carry out our functions we must do so in a manner which we consider is best calculated to:

- further the consumer objective to protect the interests of consumers, wherever appropriate by promoting effective competition;
- secure the functions of companies are properly carried out;
- secure that companies can finance the proper carrying out of their functions (in particular, by securing reasonable returns on their capital); and
- further the resilience objective to secure the long-term resilience of companies’ water supply and wastewater systems and to secure that undertakers take steps to enable them, in the long term, to meet the need for water supplies and wastewater services.

Together, these are our primary duties.

Subject to our primary duties, we must also:

- promote economy and efficiency by companies in their work;
- secure that no undue preference or discrimination is shown by companies in fixing charges;
- secure that no undue preference or discrimination is shown by companies in relation to the provision of services by themselves or other regulated companies;
- secure that consumers’ interests are protected where companies sell land;
- ensure that consumers’ interests are protected in relation to any unregulated activities of companies;
- contribute to the achievement of sustainable development; and
- have regard to the principles of best regulatory practice.

We also must carry out our functions in accordance with a statement from the Secretary of State and Welsh Ministers setting our strategic priorities and objectives. And we have general duties in exercising our powers to consider the effect on the environment.

## 2.3 What we should not be doing

As the economic regulator, we do not provide the services on which customers, the environment and wider society depend. Therefore, we cannot and should not take ownership of or responsibility for resilience across the sector. Rather, it is important that those that do provide these services:

- step up;
- take ownership and understand the customer, environmental and societal priorities in their areas;
- understand the risks to resilience in their areas; and
- act appropriately to deliver for their communities.

This will inevitably mean different service providers doing different things in different ways.

Taking account of this, of our statutory duties and the guidance we have received as a whole, it would not be appropriate for us to mandate a single approach to resilience. We will not be setting sector-wide targets. We will not set standards, which would turn resilience into a 'compliance' issue, and could let service providers off their responsibility to go further where that was the right thing to do. Nor will we manage the risks to continuity of service ourselves. But we will retain a role as a safety net and will step in in a proportionate and targeted way where service providers fall short, including on corporate and financial resilience.

## **2.4 How might we know we are getting it right?**

As set out in chapter 2, our role is to create the right regulatory framework for service providers to plan and invest for resilient services now and in the future – and to act as the safety net for customers.

The burden will be on service providers to demonstrate resilience to their customers. But we are also considering and seeking views on how to show we are fulfilling our role in resilience.

We want to ensure we get the right balance between:

- our role in providing information – for example, in reporting on resilience or highlighting best practice; and
- making sure our regulatory framework enables service providers to do the right thing on resilience, and providing the right incentives for them to do this.

We will certainly build resilience into our assessment framework, which is how we will track how far the sector is moving towards our vision of trust and confidence in water and wastewater services, and our work to drive responsible and transparent Board leadership. Customers' views will be central to this. We welcome views on indicators of resilience and leading indicators of resilience-related risk that we could include in our assessment framework.

We also welcome views on whether there are specific approaches we might usefully alert service providers to as part of our wider engagement with them. This might include how best to provide information to customers and wider society on resilience. Or the questions a service provider might ask itself in assessing the resilience of its services and systems, including any useful stress tests they may perform. We could consider setting out what the characteristics of a resilient service provider might be, drawing on the principles set out in chapter 4. We would welcome ideas on this issue.

### 3. Challenges and opportunities for service providers – and keeping track

#### 3.1 Challenges

Identifying, understanding and managing risks well is central to how service providers ensure continuity of services. These risks could be both big and small. Service providers need to consider them on an everyday basis, as well as in the near and distant future. Not doing so could lead to:

- disruption or loss of service – on a short- or long-term basis;
- direct health, wellbeing and economic impacts on customers;
- health, wellbeing and economic impacts on society as a whole;
- environmental harm;
- loss of trust and confidence – from bill payers, investors, governments and others; and
- higher costs (and bills) as a result of delayed investment.

#### Resilience in action – case study

2012 saw widespread floods and unprecedented drought in England and Wales. The drought followed two dry winters, and was sufficiently severe that a temporary use ban on some non-essential uses of water (such as using hosepipes to water gardens) was implemented in southern England. There were also preparations being made to impose more severe demand restrictions. As it happens, the wettest summer on record arrived in time for the London Olympic and Paralympic games. The wet winter that followed caused entirely different problems, but both events provided a timely reminder of the need to plan for resilience as well as for efficiency.

We have challenged service providers to focus much more on listening, understanding and responding to their customers. They have made good progress. But to manage all risks and pressures, new and old, anticipated and not, service providers will need to have a richer, more in-depth conversation with customers – for example, about the type and level of service customers consider essential, and what they think is desirable.

Different communities and groups of customers may have very different views of what they consider to be resilient services, including how long a disruption they might be happy to accept. These views may well be coloured by whether customers have already suffered:

- loss of water supply;
- sewer flooding; or
- another resilience-related problem.

And, as set out above, some customers may wish to see higher standards and levels of service in the face of pressures than others.

But resilience is not just about disruptions. It is about maintaining a quality service for the long term at a price that current and future generations can afford.

### Resilience in action – case study

Albion Water is delivering a sustainable, community-wide approach to water and wastewater management in Rissington, Gloucestershire. Recycled wastewater and storm water is used on site to feed a non-potable water network (for example, supplying toilets and for garden irrigation) thereby reducing the demand on drinking water, and community energy provision is planned. This reduces peak and total demand and, because any impacts on the off-site network are significantly reduced, contributes to an improved continuity of service. Albion's dual supplies reduce customers' bills, and these could fall further as a result of planned local energy and green space management schemes. Improvements to the site's potable water network have already resulted in savings of around one million litres a day and sewer upgrades have reduced incidences of local flooding. Following the installation of food waste macerators, Albion is carrying out trials to assess the scope for nutrient capture and local energy generation. Albion is taking an approach to natural capital that enhances local biodiversity and residents' wellbeing.

This cuts to the very heart of how water and wastewater service providers run their businesses. So resilience is not an add-on – it is central to effective management. But this does not mean 'business-as-usual', because that might not be sufficient to ensure resilience in the face of changing risks. For example, delivering the variety of water and wastewater services and standards which customers want to see may be difficult with a single network – service providers will have choices to make, including on how they run the core of their business.

### Resilience in action – case study

Wessex Water's grid project developed for the 2009 price review (PR09) has increased resilience of supply for its customers. It has now been included in HM Treasury's 'Green Book' as a good example of customer willingness to pay informing interdependent networks. This contributed to our evolving thinking for the PR14, against which we assessed Severn Trent Water's Elan Valley Aqueduct resilience investment, including the customer view of strategic threats to services.

A robust, effective approach to resilience does not mean that nothing ever goes wrong, or that services never fail. It means that risks are managed well, informed by customers' priorities. Service providers need to understand – and act on – what customers want to see avoided (and how much they are willing to pay for this), as well as how they expect their providers to pick up the pieces if things do go wrong. And, importantly, they need to plan for the unexpected, and how they might respond. This poses another challenge for service providers – if they manage risks so well that disruption or environmental degradation never happens, the hard work they are putting into this will not be visible to customers, so they may not value it.

### Ofwat's resilience work – the story so far on resilience

Our [climate change policy statement](#) (2008) and [sustainability document](#) (2009) explicitly considered asset planning for resilience. Recommendations on emergency planning and resilience across sectors were also made in the [Pitt review – 'Learning lessons from the 2007 floods'](#) (2008). Our resilience planning framework for PR09 (2008) set out how to assess the resilience of assets to flooding, and how to evaluate options for tackling these risks. This led to provision for £400 million of investment for delivery in 2010-15.

Our 2010 focus report on '[Resilient supplies](#)' considered how the sector could improve its approach, understanding and delivery of resilience. '[Resilience – outcomes focused regulation](#)' (2012) then aimed to help service providers make a strong case for resilience funding during PR14. This gave companies greater ownership of their plans, which focused on delivering a resilient service, rather than the assets and processes that underpin those services.

At PR14, service providers were free to develop with customers a set of 'outcomes' to achieve during the period 2015-20. Resilience was treated as central to business continuity – work to deliver resilient services over the next five years, and in some cases beyond, did not need to be defined as 'resilience'.

## 3.2 Opportunities

Planning for resilience gives service providers the opportunity to work really closely with their customers to understand what this means to them. It is also a good hook to deepen understanding of dependencies with other service providers, and other utilities, and to address these through partnership working. Working through how to ensure that systems and services are maintained now and in the long term can also lead to helpful challenges to management and the corporate approach. Current approaches may still be overly-focused on less flexible, sustainable approaches, and resilience planning will help tease this out.

### Resilience in action – case study

Dŵr Cymru is investing more than £25 million in RainScape projects between 2015 and 2020 – an innovative, sustainable drainage scheme to tackle sewer flooding and reduce its impact on the environment in Llanelli, Burry Port and Gowerton. RainScape schemes catch, redirect and slow down the rate at which rainwater enters the sewer network – reducing sewer flooding and customer bills, and benefiting society and the environment. The investment has included a £500,000 scheme at Stebonheath Primary School where a swale<sup>11</sup>, planters, permeable paving and water butts have been installed – these are removing around three million litres of water a year from the network and reducing the amount of rainwater running off the school roof, playground and car park during storms by 96%.

### 3.3 How might customers know their service providers are getting it right?

Service providers will need to consider how they measure and demonstrate their work in delivering resilient services, now and in the future. They might consider independent assessment of their performance in this area. They can consider the role of resilience in their wider reporting to us on progress in meeting their promises to customers in the period 2015-20. They might want to work with others both in and beyond the sector – for example, on scenario testing, or assessing the likely needs of future customers.

In our conversations with stakeholders, there has been some discussion of whether we should set a baseline for ‘resilience’ across the sector, to measure progress against. It is certainly important for us to be able to gather information to assess resilience in the sector, and leading indicators of risk to resilience. But it is the service providers (not us) that have the local and specialised knowledge on risks to their services now and in the future – and the expertise to manage them. And resilience – what customers want and rely on – will mean different things to different customers; and different things at different times; as well as in different places.

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<sup>11</sup> A swale is a low tract of land, especially one that is moist or marshy. The term can refer to a natural landscape feature or a human-created one.

We would welcome views on this point, including how it might be done at all – and whose role that should be. In particular, we would welcome views on whether we should seek independent reports, which service providers would need to fund, from time to time on company-specific or cross-cutting sector resilience issues, and on what criteria we might use to trigger such reports.

## 4. The behaviour we will need to encourage

Through our work on resilience, we want to encourage particular behaviour in the sector. We think following the behaviour set out in the resilience principles below will mean service providers are working effectively to ensure continuity of services for their customers, now and in the future.

We welcome views on the principles. They reflect our duties, including resilience, and government guidance on our strategic priorities and objectives, and build on the principles for developing robust business cases we set out in '[Resilience – outcomes focused regulation](#)'<sup>12</sup>.

### 4.1 Resilience principles for the sector

**Principle 1 – a clear understanding of risk to services.** Customers are interested in the outcomes they experience and the services they receive (including protection of the environment), not the infrastructure and processes that deliver them. Service providers should consider all risks that have the potential to place service delivery under stress, and understand how this makes their services vulnerable. This includes corporate issues such as:

- governance;
- financial structure;
- current and future workforce and skills; and
- the resilience of their supply chain.

These risks are likely to vary both in time and geographically. Service providers should consider current risks and understand how risks, costs and opportunities change with time. And they should plan for the 'what if'.

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<sup>12</sup> [http://www.ofwat.gov.uk/sustainability/climatechange/adapt/prs\\_web120503resilience](http://www.ofwat.gov.uk/sustainability/climatechange/adapt/prs_web120503resilience)

**Principle 2 – action based on analysis of the risks.** Mitigating risk can cost money – but it can also save money in the long term. Service providers should seek to balance these costs and potential savings – and we will all need to ensure the analysis of costs and benefits reflects the full picture. This includes environmental costs and benefits. We do not live in a zero-risk society, nor do we expect service providers to be resilient at any cost. We do expect them to plan for how they might respond to service failure, as well as how to prevent it occurring. This includes the investment that might need to be made today in order to improve resilience and reduce costs in the future.

**Principle 3 – service providers ensuring resilience.** Service providers will continue to own their plans and their relationship with customers and others. They will manage the risks to continuity of service – and make sure customers benefit from the opportunities to engage with partners (see principle 10). They will ensure resilient water resources and a resilient water environment to underpin them. Resilience is about deviations from standard service for any reason, not just loss of service for extreme reasons. Service providers will manage this themselves.

**Principle 4 – customer views at the heart.** Service providers provide services to customers, the environment and wider society. Customer views, including on affordability, governance and environmental protection, should be at the heart of service resilience provision. And the environment and wider society also need to be taken into account in service providers' work on resilience. There are likely to be different perspectives on resilience – for example, from those that have experienced sewer flooding or long-term restrictions on use, and those that have not. Service providers need to engage customers on resilience, not only in relation to the services they consume directly now, but also in relation to the environment and over the long term. They will also need to consider how best to communicate with customers about current and future risks to resilient services, and what this means for actions and investment.

### Resilience in action – case study

Between 2010 and 2015, Southern Water worked closely with its customers to roll out a meter to every home, linking this with water efficiency audits and retrofits. It gained significant support from its customers, with more than 80% in support of the programme, which was squarely pitched at the need to reduce pressure on water resources in its area, which is seriously water stressed. Early results show that customers have cut their water use by 16% as a result. Most customers saw lower bills, and Southern developed innovative ways to engage with all of them, including the earliest version of a social tariff.

**Principle 5 – resilience at the heart of the business.** Resilience is part of everyday service provision. It is an ongoing process. As the 'Keeping the Country Running' guidance sets out, stresses can affect the continuity of all types of water and wastewater service. This will include:

- security of supply;
- resource management;
- demand reduction;
- adaptation to climate change;
- drainage;
- wastewater treatment; and
- protecting the environment.

But this does not mean 'business-as-usual', because that might not be sufficient to ensure resilience in the face of changing risks. For example, addressing skills shortages which could impact on resilience in the future is beyond business-as-usual. Resilience means the need to seek to avoid service disruptions as well as to bounce back from them if they do happen.

#### Resilience in action – case study

South West Water has pioneered catchment management solutions and the development of structured and contracted multi-stakeholder partnerships – it has won Big Data and Finance for the future awards for this work. But South West is also building the resilience of its people, investing in around 100 apprentices, future-proofing their skills and supporting the 2015 opening of the brand new £10 million South Devon University Technical College for 16 to 18 year olds, specialising in the environment, engineering and science.

**Principle 6 – resilience as efficiency.** Resilience, and service provision, should be valued appropriately – like an insurance premium. Benefits can often be qualitative (that is, not quantified), long term or felt by different groups. Increased resilience does not have to lead to higher bills – the significant resilience investment service providers are making in the next five years is being delivered alongside an average 5% cut in bills. But increased resilience for the future may mean additional investment now, and service providers will need to have this conversation with their customers. Developing an integrated, more flexible network can represent more efficient investment. The trade-offs between current and future customers' services and bills will need to be discussed with customers. We expect companies to find the most efficient way of delivering what customers want.

**Principle 7 – partnership.** Service providers cannot deliver resilience in isolation. Working in partnership with other stakeholders, including us, is important. Lots of players have a role in making sure that resilience is built into planning and delivery of water and wastewater services. These might include:

- environmental and community groups;
- local authorities;
- business partners; and
- the energy, communications and housing sectors.

Partnership working offers the greatest opportunity to deliver innovative solutions and move away from ‘pouring concrete’ approaches. These have a high environmental impact, are not always the best-value solution and can stifle exploration of new approaches. Partnership approaches can offer a number of benefits – not just to water and wastewater customers, but also to the environment and society.

**Principle 8 – the sector reporting transparently on its progress.** Any reporting on resilience is primarily a matter for service providers, in a way that is relevant to their customers and their areas. We will use this information as part of our strategic assessment framework<sup>13</sup> and assurance framework<sup>14</sup>, and given our new duty, we propose to comment specifically on resilience in next year’s annual report and accounts. But we will look to service providers to account for their own performance in resilience.

**Principle 9 – a whole-life, ‘total costs’ approach.** Service providers are responsible for delivering resilient services, now and in the long term. This means that they should consider new and flexible approaches, as well as building new infrastructure and networks.

**Principle 10 – approaches delivering multiple benefits.** Many of the principles set out above will deliver multiple benefits to customers, the environment and society. Service providers should consider sharing the risk, costs and benefits with partners.

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<sup>13</sup> The strategic assessment framework will measure progress in the sector towards our vision of trust and confidence in water and wastewater services.

<sup>14</sup> The assurance framework is how we will hold service providers to the promises they made to their customers at PR14, for 2015-20.

### Resilience in action – case study

Anglian Water faces a unique set of challenges: rising population, growing demand for water, a low-lying region and a lengthy coastline, all in the driest part of the UK. To address these, Anglian has developed a cultural approach to resilience, ranging from strategy and leadership through to the engagement of customers and communities. Its multi-faceted approach includes:

- understanding the impacts of climate change and developing adaptation plans;
- robust systems and processes, including Building Business Continuity ISO22301 accreditation;
- investment in interconnectivity, with alternative piped supplies to communities of more than 30,000 people;
- increasing the resilience of assets to catastrophic events; and
- behavioural initiatives that span the whole business, its supply-chain partners and customers, such as 'Drop20' on water efficiency.

## 5. Next steps

We welcome your responses to this consultation by close of business on **28 August 2015**.

We intend to publish our final approach to our resilience duty towards the end of 2015. Your feedback will also help inform our work on:

- the development of markets through the value chain;
- the next price review (PR19);
- how we support the retail market in England;
- how we handle our investigations;
- how the information we gather from companies evolves; and
- other issues of importance to customers.

## **Appendix 1: Ofwat's primary duties in the Water Industry Act 1991 with the new addition of the resilience duty from the Water Act 2014**

- (2A) The Secretary of State or, as the case may be, the Authority shall exercise and perform the powers and duties mentioned in subsection (1) above in the manner which he or it considers is best calculated–
- (a) to further the consumer objective;
  - (b) to secure that the functions of a water undertaker and of a sewerage undertaker are properly carried out as respects every area of England and Wales;
  - (c) to secure that companies holding appointments under Chapter 1 of Part 2 of this Act as relevant undertakers are able (in particular, by securing reasonable returns on their capital) to finance the proper carrying out of those functions; and
  - (d) to secure that the activities authorised by the licence *of a licensed water supplier* [of a water supply licensee or sewerage licensee. The Water Act 2014 will (when the relevant provisions are brought into force) replace the words shown in italics with the words shown in square brackets.] and any statutory functions imposed on it in consequence of the licence are properly carried out; and
  - (e) to further the resilience objective.**
- (2B) The consumer objective mentioned in subsection (2A)(a) above is to protect the interests of consumers, wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the provision of water and sewerage services.
- (2DA) **The resilience objective mentioned in subsection (2A)(e) is–**
- (a) to secure the long-term resilience of water undertakers' supply systems and sewerage undertakers' sewerage systems as regards environmental pressures, population growth and changes in consumer behaviour, and**

- (b) to secure that undertakers take steps for the purpose of enabling them to meet, in the long term, the need for the supply of water and the provision of sewerage services to consumers, including by promoting–**
- (i) appropriate long-term planning and investment by relevant undertakers, and**
  - (ii) the taking by them of a range of measures to manage water resources in sustainable ways, and to increase efficiency in the use of water and reduce demand for water so as to reduce pressure on water resources.**

(Bold added.)

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales. Our vision is to be a leading economic regulator, trusted and respected, challenging ourselves and others to build trust and confidence in water.



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