

# **Towards resilience: how we will embed resilience in our work**

## About this document

This document sets out our response to the consultation, '[Reliable services for customers](#)' and the recommendations of the independent Task and Finish Group on Resilience, which we set up to challenge the sector and inform our work.

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## 1. Overview

As we explained in our consultation, '[Reliable services for customers](#)', the general concept of resilience is not new to Ofwat or the water companies – it links directly to our existing framework of duties, including on sustainable development, consumers and financeability. However, the resilience duty introduced by the 2014 Water Act gives us fresh impetus to examine how we deliver our strategy, '[Trust in water](#)' and our wider work programme going forward in line with all our statutory duties – including the duty to further the resilience objective.

The approach we are taking has been informed by:

- the responses we received to our consultation;
- the independent Task and Finish Group on resilience we commissioned (see chapter 5); and
- the stakeholders we have spoken to and heard from while developing our thinking.

We are grateful for all the insights and constructive challenges we have received.

This document comes at an important time for Ofwat as we seek views on our proposals for regulating the water sector in England and Wales in the future – including our approach to future price reviews as set out in '[Water 2020: Regulatory framework for wholesale markets and the 2019 price review](#)' (the 'Water 2020 December consultation') – and prepare for retail market opening in England. Chapter 3 sets out how this consultation process has informed our approach to that work and other elements of our forward work programme. We will continue to work closely with Defra, the Welsh Government, and other regulators and stakeholders to ensure our actions are evidence based, proportionate and effective as this develops.

In their consultation responses, water and wastewater service providers acknowledged that it is up to them to step up to the challenge of making their systems and services resilient and responsive to customer, environmental and societal priorities in their areas. This document sets out how we will build on our existing framework to enable, incentivise and encourage them to do this – and how we will step in when and where we need to.

## 2. What we mean by resilience

In this chapter, we set out our understanding of the resilience duty – the wording of which is paramount. We also consider how the concept of resilience – and the insights it can give us into the threats to the systems and services customers rely on – can add value to our work more widely. The responses to our consultation have informed and shaped our approach, as have the recommendations of the Task and Finish Group.

### 2.1 The resilience duty

The Water Act 2014 introduced a duty to further the resilience objective as one of Ofwat’s general duties under [section 2 of the Water Industry Act 1991](#).

In relation to resilience, we must exercise and perform the specified powers and duties in a manner that we consider is best calculated to further the resilience objective.

**The resilience objective 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.

This means our resilience objective does not sit outside our other work. Like all our statutory duties, it informs and directs the way we deliver our strategy.

This will be most visible in Water 2020 – the work programme that is developing our approach to the 2019 price review (PR19) and the design of markets – and our preparations for retail market opening. Other visible examples include:

- our new [charging scheme rules](#), which enable and encourage companies to promote efficient use of scarce water resources; and
- our work within our Finance and Governance programme on [financial monitoring and reporting](#), which will help ensure that companies are able to identify, and thus better cope with, stresses and shocks that may appear in the future.

## Water 2020

We have developed our Water 2020 programme to address the challenges that the water sector faces, particularly those related to water scarcity and the environment. The combination of climate change and population growth means that these challenges are likely to increase over time. Critically, we consider that without greater optimisation of activities and resources outside of traditional company boundaries, it will be impossible to address the challenges of scarcity and affordability over the long term. We are pushing service providers, building on their work in PR14, to deliver more for less.

In July, we published ‘Towards Water 2020’, a discussion document that set out our initial thinking about how our approach might evolve to help meet these challenges. We have also engaged extensively with interested parties across the sector to help inform our thinking and gather evidence. Our Water 2020 December consultation is the culmination of that work, setting out our preferred options on a wide range of issues.

Our general duties under section 2 of the Water Industry Act 1991 (including the resilience objective) have informed our preferred options, including:

- our approach to realising the benefits of markets and mitigating risks;
- the role of customer challenge groups (CCGs);
- approaches to creating incentives and performance commitments, including those for long-term planning; and
- the role of the risk-based review of companies’ business plans in providing assurance that resilience is fully considered.

We recognise that this represents the start of a process – and that more detailed work, by us, companies and other parties, will be required to refine our proposals and design their application in practice. We look forward to further constructive engagement across and beyond the sector.

## 2.2 Resilience as part of trust and confidence

We recognise the ‘resilience duty’ has specific legal meaning as set out above. But we also recognise that resilience thinking – for example, in the Cabinet Office guidance, [‘Keeping the country running’](#) – has a broader application in helping us understand risks to the systems and services that customers rely on. As such, we see the broader concept of resilience as providing useful insights into how we deliver our strategy and move towards our shared vision of trust and confidence.

This broader view of resilience was reflected in the questions addressed by the independent Task and Finish Group established by Ofwat – namely:

- What is resilience in relation to the provision of water and wastewater services?
- What do service providers need to consider as they think about how best to provide resilient water and wastewater services?
- What does Ofwat need to consider as it thinks about how best to regulate the water and wastewater service providers, having regard to its statutory duties, including its new duty on resilience?

The Task and Finish Group’s final report notes:

“There are numerous definitions of resilience in the water and wastewater sector. A coherent set of definitions (or definition) for resilience that is accepted by everyone is essential. Checking if companies are resilient when their definitions of resilience vary is difficult.”

We agree, and in our consultation, we set out the Task and Finish Group’s draft definition of resilience (in its broader sense, and not just in relation to our duty) for comment. This received wide support, although some respondents offered suggestions for changes. These were mainly split between those seeking to shorten and simplify the definition, and those looking for amendments to fill perceived gaps, such as the need to anticipate trends as opposed to coping with them. Other suggestions included adopting the definition from [‘Keeping the country running’](#) and using the [Safe and SuRe](#) framework developed by Exeter University. While these were helpful, none made a strong enough case for us to move significantly away from our initial proposal to use this broader definition of resilience, and some had too narrow a focus.

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

Definition from the Task and Finish Group (note amendments reflecting made by the group following a workshop with the sector)

Some respondents also commented on the importance of clarity in language and the danger of conflating reliability and resilience in our consultation. Experience from the 2014 price review (PR14) tells us reliability is a key priority for customers, but having considered the responses received we have concluded that resilience has a broader meaning than reliability.

### **3. What we – and the sector – should be doing about resilience**

In our consultation, we summarised our role in complying with the resilience duty and in resilience in its broader sense as:

- 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;
- making 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
- acting as the safety net for customers.

We also challenged the water sector to:

- 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 approach received broad support from most respondents. However, some clearly considered that it fell short of fulfilling Ofwat's statutory role in relation to furthering the resilience objective, with concerns raised about us adopting a passive role and relying on others to fulfil this. That was not our intention.

As we outline above, the resilience duty must be understood in the context of our other duties and functions. With that in mind, in this chapter we set out in more detail examples of the ways in which the range of activities we are undertaking are aligned with furthering the resilience duty.

For example, to ensure the resilience duty is a consideration in how we develop and shape our work, we will:

- evaluate our policy proposals in light of our statutory duties, including our resilience duty;
- continue to engage stakeholders on resilience as part of our Water 2020 work and more widely across our portfolio; and
- take account of the distinct legislative framework and strategic approaches of the UK and Welsh Governments.



Our consultation also confirmed that we will ‘step in’ when and where we need to. Chapter 4 explores how we will take this forward.

### **3.1 Long-term planning and investment**

Taking a long-term view is an essential element of planning for resilient systems and services, and is central to the resilience objective set out in our duty, as well as to resilience in its broader sense. In this section, we explain how we are prompting service providers to undertake appropriate long-term planning and investment.

Climate change and demographic shifts express themselves over generations. In the context of the water sector, ‘long term’ means looking 25 to 100 years ahead – a timespan that inevitably cuts across a number of price control periods. Taking a long-term view is likely to affect analysis of the costs and benefits of different approaches significantly, and to make new and different approaches more attractive.

The Task and Finish Group recognises the positive impact our approach to PR14 has had on longer-term planning (and funding) for resilience, including through the introduction of a total expenditure (‘totex’) approach and a focus on outcomes. It also recognises the key role companies and customer groups have played in developing methods to test real customer acceptability of risks and costs, and to develop more partnership approaches.

The Task and Finish Group makes a specific recommendation to Ofwat and the companies that there should be clear routes for funding legitimate resilience investment. It says we should provide companies with a clear framework and that it is important that companies retain ownership of their plans within this framework. It states a need for:

- clear guidance from us on our treatment of resilience when we consider business plans;
- flexibility to fund innovation against a wide assessment of costs and benefits, with future generational aspects factored into the assessment of business plans; and
- a clearer framework for developing, regulating, funding and evaluating ‘soft’ infrastructure (such as community-led projects or sustainable urban drainage systems) and community-based resilience.

It also says we should specifically look at how and whether our framework could enable water companies or others to fund distributed assets and/or to manage assets at a community level. This would help in promoting partnership working between water companies, NGOs and community groups.

At the same time, the Task and Finish Group is clear that companies and customer groups must develop methods to test customer acceptability of risks and costs, with more real engagement to drive a real understanding. It says there must be more partnership working between companies, NGOs and community groups – reflecting the resilience principles we set out in our consultation, and which we confirm in chapter 4.

We want to be clear that we see service providers' work to deliver resilience extending beyond what would traditionally have been considered 'investment' – that is, capital expenditure), and into all areas of their activity. With this in mind, we commit to delivering our role in the Task and Finish Group's recommendation, including through the evaluation of our Water 2020 policy proposals, as well as through the frameworks we set for CCGs. This builds on the firm foundations of PR14, which gave more space for companies to develop sustainable, innovative approaches in discussion with their customers.

As our approach evolves we commit to making sure our regulatory framework can take account of (and incentivise) further innovation, including greater use of partnership approaches that bring benefits to customers, the environment and wider society. We will make sure, to the extent we are able to within our statutory framework, that our approach enables service providers to:

- share costs as well as benefits with partners;
- try out new approaches that allow them to tailor their services against a spectrum of customer preferences; and
- provide a platform for other sectors such as farming and energy to play their part in solutions.

We will want to build on the PR14 approach at PR19 and make allowance for appropriate levels of resilience spending, including schemes that are clearly justified by cost-benefit analysis (which should include the benefits of resilience). Resilience schemes and programmes will need to be linked to outcomes that deliver real benefits to customers. As with all other spending, we will be seeking to make allowances for efficient costs – so that customers get the maximum level of resilience and other benefits for the level of allowed costs.

Our Water 2020 December consultation sets out proposals for encouraging service providers to focus on their customers over the longer term – rather than focusing their effort around periodic price reviews. The consultation considers whether they should commit to longer-term and multi-period outcomes and related incentives. It also sets out our approach to ensuring high-quality customer engagement on long-term issues, including recommending that CCGs specifically test the quality of company engagement on long-term issues and on resilience.

At PR14, we pushed companies to be more efficient than ever before – raising the ‘efficiency frontier’ and challenging companies to be at least at the ‘upper quartile’ of efficiency. This means that efficiency will improve by more over the next five years than it has historically – and we intend to push this further in PR19. In the same way, we would like to work with the companies as they significantly improve the resilience of the services they offer to customers, and the systems on which they depend – including their own corporate and financial resilience – building on progress to date.

Although business planning for price reviews is a significant driver for water company activity, it is just one of a number planning processes that helps companies and the sector understand the long-term challenges they face and how to respond. Others include:

- Water Resources Management Plans;
- the National Adaptation Programme;
- River Basin Management Plans;
- National Flood Strategies;
- Local Flood Strategies; and
- Catchment Management Plans.

These water-related plans sit in the context of town and country planning frameworks – which help to shape the communities and businesses that place demands on the services water companies provide. Resilience planning at city level is also playing a greater role in some areas.

We continue to think that it is for service providers to understand issues that relate to their area and to own the key links with the plans and processes that impact on:

- their business;
- the services they provide; and
- their customers’ interests.

The Task and Finish Group’s report supports this view.

Our Water 2020 December consultation recognises the role engagement, partnerships, collaboration and markets can play in improving co-ordination and our role in creating a framework that encourages this where it benefits customers. We are also working with our partners to better align the timing and expectations for Water Resources Management Plans (WRMPs). WRMPs require water companies to develop options for maintaining their supply and demand balance over a 25-year period in the context of:

- demographic shifts;
- climate change; and
- environmental thresholds.

The Task and Finish Group recommends coherent planning for resilience at both the national and regional level.

We have been working with Defra, the Welsh Government, the Environment Agency and Natural Resources Wales to develop a [draft WRMP guideline](#), which is currently out for consultation. The published draft guidance was accompanied by a [joint letter](#) (see below) setting our expectation that companies should integrate the development of their WRMPs into their mainstream business planning. To support this, government and regulators have committed to working together to improve these planning processes and to streamline their alignment.

**Extract from joint letter to water companies accompanying draft Water Resources Management Plan guidance (November 2015)**

We expect you to set out clearly in your plan the outcomes you intend to deliver for your customers, including the resilience of your supply, the risks to delivery of those outcomes and evidence that you have considered the full range of options for mitigating those risks. We are particularly keen to see that you have considered whether optimal solutions can be found through taking a strategic, regional, view across company boundaries, across sectors and considering third party options, alongside demand side measures, tackling leakage and water efficiency. For companies wholly or mainly in Wales this means taking a more integrated approach following the principles of natural resource management, including tackling leakage and water efficiency.

We also want to see evidence that you have fully considered the needs of customers now and in the future. This will include a strong and effective public consultation supported by extensive engagement with customers, with assurance from your Price Review customer challenge group on the quality of your customer engagement. It also means assurance from your Board that the plan represents the most cost effective and sustainable long term solution.

We are involved with and supportive of the work led by Water UK on the long-term resource planning needs for England and Wales, for up to 50 years, and the practical steps required to meet them.

The resilience of the wastewater system also faces long-term pressures from:

- population growth;
- development; and
- climate change.

Wastewater services are not subject to a statutory planning framework, but we support the Task and Finish Group's recommendation that service providers should have long-term wastewater, sewerage and drainage strategies in place for PR19. We will consider how we should take these into account alongside WRMPs in our risk-based review of company business plans.

We issued good practice guidance on surface water drainage strategies in May 2013. We are now working closely with the sector's 21st Century Drainage project to understand what impact that guidance has had and what, if anything, we can do in the design of PR19 to encourage greater innovation and long-term planning.

In our Water 2020 December consultation, we say that as part of any special cost factor claims, we will expect strong evidence of:

- customer engagement and acceptability on the proposal itself and its costs;
- how water resources have been considered in the broadest and most strategic way; and
- a long-term strategic approach to wastewater planning and service provision.

## **3.2 Innovation**

The resilience duty requires us and the sector to think beyond the structure and functioning of assets – to consider whole systems and services.

The challenges posed in the duty – environmental pressures, population growth and changes in consumer behaviour – are demanding ones for the sector. There are, for example, no simple solutions to engaging customers on issues that they may never directly experience, or understanding and accounting for the views of future customers. And climate change impacts are not predictions; rather, they are based on scenarios most likely to occur, and dependent on a range of factors.

Service providers will need to be innovative in how they approach these opportunities. We expect and support this. We have already seen good examples and highlighted several in our consultation.

But there is scope for service providers to do more. New entrants will drive some of this as we see greater use of markets. Much of it will need to be driven by current incumbents as they look to add value to their existing operations and do more with less by moving away from capital-intensive solutions to problems, tackling water efficiency and developing their own delivery incentives relevant to their region and customers.

Resilience as a broad concept offers a clear opportunity for service providers to be innovative in:

- their engagement with customers;
- their solutions to long-term challenges; and
- evaluating alternatives to traditional engineering approaches.

Our proposals for the use of multi-period outcomes and incentives could enable more innovative solutions. As part of our Water 2020 work, we will further consider how the balance of risk and reward can be used to support innovative solutions in the interests of customers.

### **3.3 Resilience through markets**

Our Water 2020 programme makes the case for the greater use of markets in the water sector, although we note that the legal framework for and strategic approach to markets differ according to whether an area's undertaker is regulated by the UK or Welsh Government.

The resilience duty does not specifically mention markets. But we consider there are considerable opportunities to increase resilience through markets. For example, markets can:

- be faster and more flexible than regulation in responding to changing demands and pressures;
- reveal information about system capacity and cost, allowing for better planning to meet long-term trends and short-term shocks;
- create diversity in the supply of services, reducing the risk of single points of failure and offering choice when shocks strike; and
- deliver outcomes efficiently, reducing costs to customers and/or freeing up resources for investment elsewhere in the system.

But markets can also bring risks. These may be specific to the service/market, or more general – for example, when:

- competition strips out redundant capacity that could otherwise buffer shocks; or
- service providers fail in a competitive market, leaving water companies or customers without vital services.

As a result, regulation will continue to play an important role – both in its own right, and to ensure that markets function properly. Careful design will be required to maximise benefits and mitigate risks in a way that reflects our statutory duties, (including resilience) and the differing circumstances in England and Wales. We are committed to making sure this happens when we evaluate policy proposals and their impact.

The Task and Finish Group also raised questions about the impact of differing water sector structures on the delivery of resilience and our capacity to regulate a fragmented and evolving sector where not all the stakeholders are within the regulatory, licensed, framework. We recognise these are important questions and commit to building this into our thinking.

We continue to support work by the UK and Welsh Governments to reform the abstraction licensing regime so that this reflects differences in the value and availability of water – and environmental costs – over time, and builds this into the use and trading of licences.

### **3.3.1 Retail market opening**

The UK Government is committed to opening a retail market that will provide choice to eligible non-household customers in England and Wales over their water and wastewater retail service provider in April 2017. Retail services include things like billing and customer services.

The [Water Strategy for Wales](#) commits to monitoring costs and benefits to inform the Welsh Government's future policy about services for non-household customers served by water companies located wholly or mainly in Wales. In the meantime, we will continue to work with all relevant stakeholders to ensure customers are protected whether they are eligible for market opening or not.

The benefits of retail market opening could extend beyond cost savings to non-household customers. Experience from Scotland (see text box below) suggests new retailers are likely to drive more targeted and innovative approaches to water efficiency, metering and data management – so that they can create value by meeting customers' needs with less water and lower costs.

### **Retail markets in Scotland**

Business Stream [estimates](#) that In the first five years to April 2013, it achieved more than £35 million in water efficiency savings, and helped customers save 16 billion litres of water and more than 28,000 tonnes of CO<sub>2</sub>. It thinks that competition has driven it to deliver innovations in:

- customer service;
- metering;
- water efficiency; and
- self-service.

Since the new market launched, Business Stream claims to have introduced more than 60 new services to help customers to improve the efficiency and cost effectiveness of their water supply.

But respondents to our consultation commented that there are also risks – including failure of a market participant and confusion over where responsibility lies for making sure that services for customers and the environment are resilient. To help mitigate these in retail opening, we have been working with [OpenWater](#) – the programme set up by the UK Government to deliver the new market by April 2017 – to ensure that a robust licence process is in place, and that market and operational codes exist between retailers and wholesalers to cover issues such as:

- making sure only fit and proper entities can enter the market;
- making sure customers are protected, including if a retailer fails;
- water quality testing and water quality incidents;
- planned and unplanned interruptions;
- pollution incidents; and
- resilience of services and systems.

The codes and supporting information are available on the [OpenWater website](#).



We expect retailers in the new competitive market to work with customers to use their consumption data to enable customers, among other things, to reduce their bills by reducing water consumption. This will underpin the resilience of both water supply services and of the ecosystem.

We are monitoring the ongoing work in the energy sector to ensure that sufficient data is available to customers to support switching and enable them to provide this data to third parties to provide energy efficiency and other services should they wish. We may seek to update the relevant market code (wholesale) once that work has concluded if there are further changes which may be desirable to improve the arrangements based on the energy experience.

As part of the work to reform our regulatory arrangements under our Water 2020 programme, we are also considering what opportunities there might be to enhance the current arrangements.

### **3.3.2 Markets for sewage sludge treatment, transport and disposal**

We recognise that sludge is not just a by-product of sewage treatment, but also has a value to water and wastewater service providers. For example, it can be used to generate energy and also as a fertiliser. Our Water 2020 December consultation sets out the case for using markets to incentivise the treatment and use of sludge more effectively. This would see:

- separate, binding price controls for sludge treatment, transport and disposal;
- the creation of an information platform; and
- increased regulatory transparency with regard to funding of contracts with third parties.

We think that these proposals could directly benefit resilience planning by service providers for the short and long term by providing information about alternative sludge service providers, and creating markets that could include contracts for back-up sludge treatment services to cope with planned and unplanned facility outages.

We also think that they will underpin the resilience of the ecosystem and of wastewater services by ensuring the most efficient use of resources. And we are mindful that increasing the role of smaller companies increases the probability (but reduces the impact by occurrence) of a sludge treatment provider failing. We recognise this risk needs managing; options might include applying special administration arrangements to licensed entrant providers of sludge services, or requiring incumbents to contract in a way that ensures resilience in levels of service.

We also recognise that, in some cases, benefits can result from a more regulatory approach.

### **3.3.3 Water trading**

Water trading describes the buying and selling of water between incumbent water companies or the supply of water by third parties to incumbent wholesalers. It is not a new concept – trades already occur between companies in England and Wales, although our analysis suggests there could be up to £1 billion of potential cost savings if markets operated more effectively (see our Water 2020 December consultation for more information).

The Water Act 2014 includes a number of legislative changes designed to make such trades easier. While we are mindful that the Welsh Government has chosen not to implement these provisions, this does not stop companies operating wholly or mainly in Wales entering into trades under the existing framework.

We consider this kind of market should generally drive greater resilience. For example, increasing the diversity of water sources a company can draw on reduces the risk of single point of failure inherent in large fixed assets. It also increases the options available to deal with long-term pressures such as population growth and climate change. Interconnection could also improve the resilience of ecosystems by allowing companies to target abstraction in areas of low environmental impact when flows are low or species are particularly sensitive – for example, during fish migration.

But we also recognise water trading might bring risks to resilience in its broader sense. We will need to be confident that companies exporting water from one area to another properly consider the impact on the area from which they are taking water, including the impact on customers in that area. We will need to be confident that drinking water safety is not compromised when new sources are added to the network. We will also need to be sure that market design complements long-term planning and that abstractions brought into supply do not damage the natural environment.

These are key considerations for the market design proposals set out in our Water 2020 December consultation. As we develop our thinking, we will continue to work closely with the Drinking Water Inspectorate, the Environment Agency, Natural Resources Wales, Defra and the Welsh Government to ensure market design and the regulatory safeguards led by others interact to maximise benefits and mitigate risks.

To support these new markets, we are proposing to allocate the regulatory capital value (RCV) across different parts of the value chain, such as sludge and water resources – a specific tool to enable greater use of markets, which help resilience.

### 3.3.4 Payments for ecosystem services

Payments for Ecosystem Services (PES) describe a variety of innovative, market-based incentive schemes that reward managers of land – including farmers and woodland owners – for maintaining and enhancing environmental benefits (ecosystem services) over and above that which would be achieved by meeting regulatory obligations. Services include:

- water regulation (for example, water quality and flood regulation); and
- climate regulation (for example, carbon storage and/or sequestration).

In this way, PES support the resilience of both systems and services, and ensuring our regulatory framework enables and incentivises water and wastewater companies to build them into their planning contributes to the resilience objective.

PES involves creating a market where a beneficiary willing to ‘buy’ an ecosystem service (such as a water company looking to benefit from improved water quality) can find a willing ‘seller’ (typically a land manager) that will adopt measures to ensure the provision of the particular ecosystem service at an agreed price.

The Welsh Government’s [Environment Bill](#) highlights its commitment to adopting and embedding the ecosystem approach into natural resource management and related decision-making processes. The Welsh Government sees PES as an important and innovative way of attracting money into the rural economy, as well as maximising the value of every pound invested. It has recently set up a PES practitioners group to support people working in this area. Defra has also funded a number of PES pilot schemes, and has published [best practice guidance](#) intended to help those looking to create such schemes.

The water sector has been at the forefront of developing PES-type schemes – from catchment management approaches to safeguarding water quality and the environment. Our focus report, [‘From catchment to customer’](#), acknowledged that such approaches can often be cheaper, deliver a number of benefits and have lower carbon emissions than capital-intensive alternatives. They are also consistent with our strategy, which places an emphasis on delivering the services customers want rather than the way in which they are delivered.

But there is a risk that PES undermines the ‘polluter pays’ principle by normalising the expectation that polluting behaviours in catchment – for example, by farmers – must be ‘bought out’ (paid off), rather than addressed. So, we expect companies to consider the nature of the agreements they are entering into and ensure customers support the approaches being adopted in accordance with the principles set out in ‘From catchment to customer’ (and summarised in the text box below).

**From catchment to customer – our principles to underpin the companies’ catchment management schemes**

- Where pollution derives from particular agricultural or other practices, the sector concerned should be primarily responsible for preventing or removing it, under the polluter pays principle. Policy-makers and regulators should use advice, incentives, regulation and enforcement to encourage the sectors that cause pollution to meet their responsibilities.
- Water customers could legitimately expect to pay for those elements of catchment management that bring direct and measurable benefits to them, under the principle of paying for ecosystem services.
- Where schemes for good land management reasons contain measures that produce other benefits, alternative funding sources and contributions should be sought, taking into account customer support for the wider benefits.
- The companies must be allowed to try out a range of approaches. We and the other regulators should not penalise them for trying well thought out, innovative schemes, particularly if they identify failing schemes quickly and stop spending on them. But customers should not bear all the risks in the event that catchment management schemes fail, resulting in further investment to meet required standards.

### **3.4 Environmental resilience**

Environmental pressures are specifically mentioned in the duty. Some respondents to the consultation felt our proposals neglected this element and that we needed to do more to protect the natural environment, and thereby the systems and services which rely on it.

We are not an environmental regulator and do not have a role in directing water companies about what environmental standards must be achieved. Rather, as the economic regulator we seek to create conditions that incentivise companies to:

- be efficient in meeting their environmental obligations in the long-term;
- engage their customers to understand the environmental outcomes they want delivered in the short, medium and long term; and
- understand short-term and long-term risk to the environment's ability to support the services companies provide, and play an active role in mitigating them.

In doing so, and taking account of all our statutory duties, including to further the resilience objective, we will work closely with the Environment Agency, Natural Resources Wales, Natural England, the DWI and our wider stakeholders. This approach builds on our strategy.

The water sector has made great strides in protecting and enhancing the natural environment. Since privatisation, companies' investment has led to:

- 3,000 km of rivers maintained or improved to meet EU environmental standards;
- the return of salmon to the Mersey; and
- the return of otters to every county in England.

Customers also clearly value the improvements that have been made (the conversations companies had with customers at PR14 is testament to this) and, in some cases, want companies to go beyond the legal obligations that underpin much of the investment. Environmental protection and enhancement is one of the services customers want companies to deliver.

### **Abstraction incentive mechanism – creating incentives to go beyond regulatory compliance in England**

The abstraction incentive mechanism (AIM) has the objective of encouraging water companies to reduce the environmental impact of abstracting water at environmentally sensitive sites when water is scarce. We plan to implement the AIM in reputational form from 1 April 2016. We are currently [consulting on the AIM](#).

The reputational AIM seeks to harness a water company's aspiration to enhance its reputation by demonstrating that it is changing its operating practices in a way that benefits the water environment and that helps achieve the objectives of the Water Framework Directive.

Water companies propose abstraction sites for inclusion in the AIM. No water company wholly or mainly in Wales has proposed an AIM site, and the environmental information we currently have does not suggest there is a need for them to do so. We therefore expect the AIM will only apply to water companies wholly or mainly in England.

Many environmentally damaging abstractions have already been addressed through the Environment Agency's and Natural Resources Wales' Restoring Sustainable Abstraction (RSA) programme. Some of the sources included in the AIM are sites where the RSA

programme solution has not yet been implemented or where the environmental impact was not sufficiently large to justify a cost-beneficial scheme under the RSA programme. We would therefore expect the AIM to deliver targeted benefits to the environment where and when it is most needed.

The reputational AIM will contribute to our new resilience duty – for example, by encouraging companies to manage water resources in sustainable ways in response to increasing environmental pressures and population growth.

We are working closely with the Environment Agency to ensure the reputational AIM complements existing Environment Agency programmes to restore sustainable abstraction and enable companies to better meet Water Framework Directive objectives. We are also in contact with Natural Resources Wales to ensure we remain informed about the RSA programme in Wales, and whether the AIM might be suitable for any abstraction sites in Wales in the future.

We have an aspiration for the AIM to become financial at PR19 to drive increased benefits for the environment, but we want to learn from the experience of the reputational AIM.

We also recognise that the natural environment is vital to the functioning of the sector and the services it provides. It sustains the abstraction that household and non-household customers rely on, and assimilates the waste and run-off they discharge. In that sense, the environment provides the foundation for all the services companies provide. The resilience of systems and services includes ecosystems.

We recognise that delivering environmental resilience at a price customers can afford will be a challenge for the sector as we look to a future of population growth, climate change and increasing expectations for the environment. But we do not accept that resilience planning is inefficient. Rather, the two go hand-in-hand as service providers plan over the longer-term horizon – 25 to 100 years or more – as discussed above. Longer-term benefits and savings are then balanced against some cases where there may be increased short-term cost. And we confirm our view, set out in our resilience principles (see chapter 4), that resilience planning is about systems and services, not the infrastructure and processes that enable and deliver them.

We have already seen significant innovation in this area, with companies looking at catchment management to:

- safeguard drinking water quality;
- reduce sewer flooding; and
- meet environmental quality standards.

Our shift to totex at PR14 positively encouraged companies to explore these alternatives to capital investment where outcomes can be delivered at lower costs – this is widely recognised by stakeholders, service providers and the Task and Finish Group. This innovation has also seen significant growth in partnership working, with schemes delivering multiple environmental and social benefits – such as habitat restoration, carbon storage, and flood risk management – that go beyond core company business.

We think there is further scope for companies to innovate in how they deliver outcomes, how they share the costs with co-beneficiaries and how this is reflected in their business plans. Our challenge is to ensure our regulatory framework enables and encourages them to do this. We commit to this in our Water 2020 work.

### **3.5 Resilience and sustainable development**

The relationship between the concepts of sustainability and resilience is complex and contested within academic literature. But we consider our resilience duty gives additional emphasis to socio-economic and environmental matters, alongside our other duties, including sustainable development.

As we have moved from our previous strategy ('Sustainable water') to our current one ('Trust in water'), we have continued to reflect this in our work. We commit to reviewing our sustainability principles (see below) in 2016.

#### **Ofwat's sustainability principles**

- A safe and reliable water and sewerage service for consumers that minimises the impacts on the environment now and in the future.
- Consumers continue to get a fair deal and receive a level of service that consistently meets their needs.
- Financially robust sectors that are able to meet consumers' needs at a fair cost, into the future.
- Companies that remain accountable to their customers.
- Using the best available information to support decision-making.

### 3.6 Increasing efficiency in the use of water

Improving water efficiency is fundamental to the long-term resilience of water supplies and the environment, and is specifically referenced in the resilience objective. Effective water efficiency measures depend on a strong relationship between service providers and their customers, as behaviour change on the part of customers will be key to reducing water wastage.

Our Water 2020 programme places the challenge of water scarcity and the environment at the heart of its design. Proposals include developing markets that drive efficient allocation of water resources between companies and new entrants – and the tests for long-term planning set out elsewhere in this document.

We have also made it clear that we expect companies to evaluate fully the potential that water efficiency can play in closing long-term supply deficits as part of the WRMP process (see section 3.1). Such evidence will be vital in supporting business plan submissions as part of the price review framework. This is an area where we particularly welcome innovative approaches, and where customer engagement is key.

We will learn from the experience at PR14 on leakage, when we set it as one of two issues on which companies were required to have an ‘outcome’ in their business plans, alongside the SIM – the incentive mechanism on customer service.

We have designed our [charging rules](#) with water efficiency in mind. We consider that charging can play a key role in:

- securing the economically and environmentally efficient use of resources;
- encouraging innovation; and
- ensuring that environmental goods are costed appropriately.

We also recognise meter-based charging as one of a number of tools that can help promote the efficient use of water by influencing consumer behaviour. It helps to incentivise lower water usage, which reduces the overall demand for water and the need for companies to invest in new infrastructure. This results in lower bills for households and for all customers.

We expect service providers to work innovatively to drive water efficiency among their customers, and to increase the contribution such measures can make to reducing the need for new supply.



And in section 3.3, we set out our work to drive greater customer empowerment in the retail market through our regulatory approach, to enable them to maximise the benefits from the new market arrangements, as well as supporting water efficiency and more sustainable behaviours.

### **3.7 Promoting best practice**

We are very keen to promote best practice across the sector on resilience, as service providers plan for resilience and manage risks accordingly – facilitating conversations, shining a light on and supporting excellent practice and innovative approaches.

Respondents to our consultation felt there was a clear role for Ofwat in maintaining an environment where sharing best practice and innovation is encouraged so that service providers learn from each other. Some respondents went as far as to suggest Ofwat should step in where useful experience is not shared.

We will keep under review how we might fulfil this ‘promotion’ mentioned in our resilience duty – for example, how we might most effectively showcase examples of best practice, alongside our ‘harder’ regulatory and market-based tools. We will continue to highlight examples of excellent company resilience work and customer engagement as part of our ongoing engagement with the sector and beyond.

We also look forward to seeing evidence of good practice in customer engagement on long-term and wider resilience issues, and will consider how we can shine a light on good practice that all customers can benefit from.

### **3.8 Customer engagement**

Our strategy places customers at the heart of the sector – this includes in terms of the resilience of systems and services in its broader sense.

Some respondents to our consultation saw a difficulty in engaging customers on resilience issues. In our view, it is possible to engage customers on questions of resilience, but it does require some innovative approaches. There are examples from companies’ business plans at PR14 (for example, those of South West Water and Affinity Water) of how this can be done.

The Task and Finish Group has reflected on the need for greater innovation in engagement. It recommends that water companies and governments increase public engagement during the current price review period.

We see CCGs playing a key role in challenging companies to use approaches to customer engagement that allow them to engage effectively on resilience and take the results into account in their plans. We also expect the CCGs to provide assurance to us as to the quality of that engagement – in particular, taking account of engagement with customers on the long term.

Our Water 2020 December consultation sets out our proposals on the future role of CCGs. We think that CCGs should play an important role challenging and assuring the quality of the company's customer engagement, including on resilience. We are proposing that CCG reports cover a number of specific issues, including whether a service provider has engaged with its customers on the resilience of its systems and processes, as well as its services. Where appropriate (for example, in relation to enhanced service), we also propose that CCG reports address whether a company has engaged with its customers on a range of options, which might include:

- increasing its own capacity;
- purchasing water from another service provider or source;
- demand management options; or
- a long-term, strategic approach to wastewater planning that also considers more sustainable, flexible solutions.

And we recognise that CCGs may need additional support, perhaps especially on issues such as engagement on resilience and the long term. So our Water 2020 December consultation proposes to facilitate more collaboration between CCG Chairs to share best practice, including on how service providers engage with customers on longer-term issues.

Ultimately, we propose to link the quality of a service provider's customer engagement – including the degree to which companies have effectively engaged with their customers on longer-term issues – directly to our assessment of business plan quality in the risk-based review. We are also considering whether we should encourage or even require that certain performance commitments and rewards and penalties – for example, asset health – span more than a single regulatory control period.

### **Local Resilience Forums**

A 'Local Resilience Forum' (LRF) is a forum formed in a police area of the United Kingdom by key emergency responders and specific supporting agencies. It is a requirement of the Civil Contingencies Act 2004.

An LRF allows responders access to a forum to consult, collaborate and disclose information with each other to facilitate planning and response to emergencies, and produce a [Community Risk Register](#). Links to all LRFs can be found through the [Local Resilience Forums](#) page of the [Cabinet Office](#) website.

Many service providers are already involved in these fora. CCGs may look to see the scope and extent of a service provider's participation in the relevant LRFs as evidence of their commitment to resilience. This would also provide evidence of a service provider's efforts to ensure their resilience planning takes account of interdependencies, at least at a local level.

The Task and Finish Group recommends that the Environment Agency, Natural Resources Wales and the water companies improve the understanding of risk and failure, driving a discussion around better understanding and communication of:

- the risks the sector faces;
- the costs of failure; and
- the costs and benefits of measures to avert, manage and recover from failure.

We agree that managing risk is at the heart of delivering resilience of systems and services. Understanding and managing risks will be something we look for in PR19 business plans and will form part of the risk-based review.

## 4. Measuring resilience – and holding the sector to account

### 4.1 Measuring resilience

The resilience duty does not require us to measure the resilience of services. And resilience is a relative, dynamic concept, not a fixed activity or state.

However, in terms of resilience in its broader sense, we think it would be helpful for all stakeholders to understand how close to or far from being resilient service providers are. We specifically asked in our consultation how the sector should measure its own performance on resilience, and how we should demonstrate that we are carrying out our role.

This question resulted in the greatest volume of responses, and there was a strong desire for measures of resilience. What was less clear was the form these measures might take, with responses reflecting the inevitable tension between the value of consistency and comparability, and the need to recognise local priorities and issues. We received a wide range of views on how resilience might be measured – and by whom. This reflects the complexity of the problem and also suggests that the measures chosen may vary depending on their intended use.

A range of specific measures were suggested, including:

- National Adaptation Programme indicators developed by the Adaptation Sub-Committee;
- companies' performance commitments and outcome delivery incentives;
- company risk registers;
- stress testing; and
- an independent review of the sector's resilience that could be updated periodically.

There was more agreement with the proposition that Ofwat should not mandate national standards, but that we do have a role in monitoring performance. Some respondents raised concerns about the difficulty of engaging customers about planning for extreme events and future generations – although most recognised this was not a reason not to do it. Suggested alternatives included Ofwat developing national standards and the use of expert evaluation. The Task and Finish Group recommends that we work with the water companies to develop a method of comparing resilience, reflecting:

- customer views;
- local context;
- the environment; and
- company ownership of plans.

We note that the Task and Finish Group does not necessarily envisage standardisation, as this will constrain the number and type of solutions, which will reduce resilience – something we wholeheartedly agree with.

The Task and Finish Group considers that there needs to be greater discussion between companies about how they tackle resilience. It also thinks there should be a resilience standard (which could be a qualitative measure of resilience as opposed to a quantitative metric), which a sector-wide Resilience Action Group could play a role in setting. And it says that companies should report against a set of resilience criteria, which should be qualitative but ensure all company boards have properly assessed resilience in a way that goes beyond their risk register. The Task and Finish Group says this could link to the strategic dashboard for the sector – a collection of information about the water sector, including how customers rate their experience and progress against environmental commitments.

We expect the sector strategic dashboard to develop into a powerful reputational tool that demonstrates whether the sector is getting closer to or further away from our vision of trust and confidence in water and wastewater services. As such, it will provide an insight into the resilience of the sector as its performance is judged over time against a background of shifting short- and long-term pressures. We look forward to the industry's consultation in early 2016.

But we agree that water companies should develop better measures of resilience as we look to PR19 and beyond, and that we need to consider how we take these into account in our assessment of business plans. We consider that such measures should build on current approaches. We will consider the use of measures as part of our work on outcomes and customer engagement.

In November 2016, we will consult on proposals on the balance between bespoke and common outcomes. This consultation will consider the role that comparative information could play to support challenge by customers and on behalf of customers. In considering what the appropriate balance should be and how our approach might evolve from PR14, we will need to have regard to our statutory duties, including our duty on resilience – and our November consultation will consider how resilience should be captured in the incentives and performance commitments against which companies are held to account.

When evaluating our policy proposals, we consider them in light of our statutory duties (including the duty to further the resilience objective).

## 4.2 Reporting and assurance for resilience

We do not deliver the services and systems that customers rely on. To further the resilience objective (where applicable) our preferred approach is to incentivise service providers to take responsibility for resilience, and to demonstrate that they have done so.

We expect companies to decide how they report on their performance each year. But we also expect all of them to publish some common content in an annual performance report – this is important as it allows customers and other stakeholders to compare the performance of individual companies with the rest of the sector, and sets out a minimum we would expect companies to report on.

Our company monitoring framework will help us to make sure that water companies provide high-quality assurance on their performance to customers. It will also challenge companies to put processes in place so that the underlying data can be trusted. We explain these tools in more detail in '[Monitoring and assuring delivery](#)'.

As part of their annual performance report, we expect companies to publish a statement that the company has complied with all its relevant statutory, licence and regulatory obligations, and is taking appropriate steps to manage and/or mitigate any risks it faces.

We would expect this to include resilience.

As set out in section 3.8, the Task and Finish Group recommends that we work with the water companies to develop a method of comparing resilience – reflecting:

- customer views;
- local context;
- the environment; and
- company ownership of plans.

Although we have not prescribed a standard set of measures for companies to report in their annual performance reports, this should not prevent companies assessing and reporting on their own resilience.

### **4.2.1 Effective governance**

We expect company boards to understand and take action to meet their customers' expectations on resilience – as we would expect for other issues. It is for companies to demonstrate how they comply with their obligations to their customers and other regulators.

This means having effective systems and governance arrangements in place to understand and manage the risks companies face and the ability to take action to deal with the consequences of unplanned failures.

To provide insights and assurance companies may, for example:

- run periodic stress tests;
- seek accreditation to relevant British or international standards; and
- engage in Local Resilience Partnerships and Forums.

The Task and Finish Group recommends that the UK and Welsh Governments set a framework for all companies to have a process in place to review and stress test plans as widely as possible, and that there should be co-ordinated scenario planning at a regional or river basin level, involving a number of water companies. It is for companies to consider such a framework and build this into their approach to meeting their resilience obligations. But if we do not have confidence that they are meeting these obligations, we will consider reflecting this in our requirements for annual performance reports and/or in the risk-based review process for PR19.

### **4.2.2 Financial resilience**

In our consultation, we said that resilience – in its broader sense – is not just about infrastructure and networks that service providers own, maintain and operate, but also ecosystems and financial systems.

The concept of financial resilience is not new.

We impose conditions on companies through licensing. These licences require companies to maintain a ring-fence between regulated and non-regulated business activities, including those of other group companies outside the regulatory ring-fence to ensure customers' interests are not put at risk by activities outside our regulatory control. Most companies are required to maintain an investment grade credit rating – an approach that provides independent assessment of financial resilience and risk.

We have introduced a [financial monitoring framework](#) to provide consistency, transparency and assurance on service providers' financial resilience. We will gather, analyse and report on information on the regulated companies to give a clearer and broader view of their solvency, liquidity, risk management and longer-term financial viability in light of anticipated investment programmes. And it will allow us to identify emerging risks and help us decide when we need to intervene to protect customers' interests.

We have also been considering how companies should demonstrate that they are financially resilient. The '[UK Corporate Governance code](#)' (September 2014) also requires that for years commencing after October 2014, listed companies must include a statement about their long-term financial viability in their statutory accounts. Following discussions with companies and other stakeholders, we will publish a consultation that considers how companies might use the Long Term Financial Viability Statement to demonstrate they are financially resilient over the longer term.

The first full financial monitoring report will be prepared following the publication of the 2015-16 regulatory accounts.

### 4.3 Our resilience principles

In our consultation, we set out the principles we expected service providers to follow to help make sure they are working effectively to ensure the resilience of services and systems for their customers now and in the future. Responses to the consultation gave them a broad consensus of support, and so we reiterate and confirm them below.

- Principle 1** – a clear understanding of risk to services.
- Principle 2** – action based on analysis of the risks.
- Principle 3** – service providers ensuring resilience.
- Principle 4** – customer views at the heart.
- Principle 5** – resilience at the heart of the business.
- Principle 6** – resilience as efficiency.
- Principle 7** – partnership.
- Principle 8** – the sector reporting transparently on its progress.
- Principle 9** – a whole-life, 'total costs' approach.
- Principle 10** – approaches delivering multiple benefits.



Companies could also consider the use of existing standards, such as BS 65000:2014 (Guidance on Organisational Resilience), and membership of resilience and wider planning bodies which extend beyond the water and wastewater sector.

#### **4.4 Challenging the sector to improve and acting as a safety net – our risk-based approach**

Where appropriate, we adopt a risk-based approach to deciding where we need to be more involved in challenging company performance. This means our decisions on where to focus our action and how we will carry out our work are informed by an assessment of risks and will:

- ensure that we focus on those areas that will provide the best outcomes and value for customers; and
- reflect the right ways to go about our work.

We expect companies to be accountable for managing all of the risks to trust and confidence in provision of their services, including the risks to the delivery of the outcomes customers and society expect. Companies should explain significant new risks to customers – as well as the steps they are taking to manage and mitigate these risks.

In our consultation on resilience, we explained that we will need to know that service providers:

- understand the outcomes their customers need, want and are willing to pay for;
- understand the risks to delivery of those outcomes now and over the long term (that is, the risks to resilience, which includes resilience of services and systems, and corporate and financial resilience);
- are considering the full range of options for mitigating those risks, including thinking beyond traditional company boundaries, beyond the sector and over the long term;
- have identified efficient, effective and proportionate risk mitigants;
- reflect this in their business planning; and
- deliver on their commitments, while adapting to changes in circumstances.

Our resilience duty does not give us any additional powers to take action where companies are not doing this. But we will continue to use our risk-based approach to assessing and taking action on emerging risks – including risks to resilience.

At PR14, we introduced a number of changes to the methodology that helped Ofwat and customers to challenge their companies on their business plans. These included:

- setting up independent CCGs to challenge companies and provide assurance on the quality of companies' customer engagement and the degree to which this is reflected in their plans;
- creating a framework for companies to establish performance commitments and outcome delivery incentives based on customer priorities, needs and requirements;
- using a risk-based approach that allowed us to focus resources on those areas of most concern to customers;
- incentivising companies to produce robust business plans; and
- board assurance.

Under this approach, customers saw reduced bills and increased investment to deliver the outcomes they want to see. Our Water 2020 December consultation proposes to build on these approaches at PR19 to driver better outcomes for customers and the environment over the long term. The responses we receive will help develop our thinking on how these and other incentives can be used to drive resilience in the sector.

Where we think that there are risks to trust and confidence that have not been identified or are not being managed, we will step in. This could mean challenging a company on its performance. But this could also include highlighting poor practice or exploring issues in more depth where there are concerns. We may also highlight good practice or draw attention to particularly good performance where this is warranted.

In '[Monitoring and assuring delivery](#)', we set out the tools we will use in response to risks or issues – including:

- informal requests for further information or explanation;
- targeted reports; and
- targeted reviews.

We said that if we have concerns that companies are not complying with their obligations, we will pursue informal regulatory action where that is the most appropriate means of making sure that they meet their obligations. Formal enforcement action (such as our powers under section 18 of the Water Industry Act 1991) is likely only to be required to deal with the more serious and/or persistent breaches.

We have set out our [approach to enforcement](#) and have previously used these formal enforcement powers across a range of areas. For example, between 2005 and 2013, we made companies pay out more than £550 million for underperforming. Almost £500 million of this was returned to customers through lower bills or increased investment in services.

## 5. Task and Finish Group recommendations

The Task and Finish Group recently published its report, which sets out its recommendations in detail<sup>1</sup>. We welcome this serious and useful contribution to the debate.

We have sought to respond to the recommendations throughout this document where appropriate. For ease of reference, we summarise our response to each of them in the table below.

Recommendation	Our response
<p><b>Agree a shared definition for the sector</b></p> <p><b>When:</b> During 2016</p> <p><b>Lead:</b> Water and Wastewater Resilience Action Group (see recommendation 10)</p> <p><b>Involved:</b> All bodies involved in planning and delivering water resilience</p>	<p>We recognise the ‘resilience objective’ has specific legal meaning. However, we consider resilience thinking has a broader application in helping us understand risks to the systems and services that customers rely upon. We consider the definition adopted by the Task and Finish Group – now slightly amended – is a helpful starting point, although the wording of our resilience duty remains paramount for our work.</p>
<p><b>Increase public engagement and education</b></p> <p><b>When:</b> 2015-20</p> <p><b>Lead:</b> Water companies and governments</p> <p><b>Involved:</b> All sector and non-sector partners, including stakeholders and third parties</p>	<p>Our strategy places customers at the heart of the sector.</p> <p>We see CCGs playing a key role in challenging companies to use approaches to customer engagement that allow them to engage effectively on resilience and take the results into account in their plans. We also expect the CCGs to provide assurance to us as to the quality of that engagement – in particular, taking account of engagement with customers in the long term and on the resilience of its systems and processes, as well as its services.</p> <p>Ultimately, we propose to link the quality of a service provider’s customer engagement – including the degree to which companies have effectively engaged with their customers on longer-term issues – directly to our assessment of business plan quality in the risk-based review.</p>
<p><b>Ensure clear routes for funding legitimate resilience investment</b></p>	<p>The Task and Finish Group report recognises the positive impact our approach to PR14 has had on</p>

<sup>1</sup> [http://www.ofwat.gov.uk/wp-content/uploads/2015/12/rpt\\_com20151201resiliencetaskfinish.pdf](http://www.ofwat.gov.uk/wp-content/uploads/2015/12/rpt_com20151201resiliencetaskfinish.pdf)

**When:** By 2017, in time to inform PR19  
**Lead:** Ofwat and water companies  
**Involved:** Water companies, investor community, customer bodies, wider water sector stakeholders

longer-term planning (and funding) for resilience, including through the introduction of a total expenditure ('totex') approach and a focus on outcomes. It also recognises the key role companies and customer groups have played in developing methods to test real customer acceptability of risks and costs, and to develop more partnership approaches.

We will want to build on the PR14 approach at PR19 and make allowance for appropriate levels of resilience investment, including schemes that are clearly justified by cost-benefit analysis (which should include the benefits of resilience). Resilience schemes and programmes will need to be linked to outcomes that deliver real benefits to customers. As with all other spending, we will be seeking to make allowances for efficient costs – so that customers get the maximum level of resilience and other benefits for the level of allowed costs.

The Task and Finish Group says we should provide companies with a clear framework and that it is important that companies retain ownership of their plans within this framework. It states a need for:

- clear guidance from us on our treatment of resilience when we consider business plans;
- flexibility to fund innovation against a wide assessment of costs and benefits, with future generational aspects factored into the assessment of business plans; and
- a clearer framework for developing, regulating, funding and evaluating soft infrastructure (such as community-led projects or sustainable urban drainage systems) and community-based resilience.

It also says we should specifically look at how and whether our framework could enable water companies or others to fund distributed assets and/or to manage assets at a community level.

We commit to do this through the evaluation of our Water 2020 policy proposals, as well as through the frameworks we set for CCGs. This builds on the firm foundations of PR14, which gave more space for companies to develop sustainable, innovative approaches in discussion with their customers. As our approach evolves, we commit to making sure our regulatory framework can take account of (and incentivise) further innovation, including greater use of partnership approaches that bring benefits to customers, the environment and wider society. We will make sure, to the extent we are able to within our statutory framework, that our approach enables service providers to:

- share costs as well as benefits with partners;

Recommendation	Our response
	<ul style="list-style-type: none"> <li>• try out new approaches that allow them to tailor their services against a spectrum of customer preferences; and</li> <li>• provide a platform for other sectors such as farming and energy to play their part in solutions.</li> </ul> <p>We want to be clear that we see service providers' work to deliver resilience extending beyond what would traditionally have been considered 'investment' – that is, capital expenditure – and into all areas of their activity.</p> <p>Our Water 2020 December consultation sets out proposals for encouraging service providers to focus on their customers over the longer term – see section 3.1.</p>
<p><b>Ensure coherent planning for resilience at both a regional and national level</b></p> <p><b>When:</b> By 2020</p> <p><b>Who:</b> Water companies, Environment Agency, Natural Resources Wales</p> <p><b>Involved:</b> Water sector bodies and NGOs</p>	<p>We have been working with Defra, the Welsh Government, the Environment Agency and Natural Resources Wales to develop draft WRMP guidelines, which is currently out for consultation. The published draft guidance was accompanied by a joint letter setting out our expectation that companies should integrate the development of their WRMPs into their business planning. To support this, government and regulators have committed to working together to improve these planning processes and to streamline their alignment.</p> <p>We are involved with, and supportive of, the work led by Water UK on the long-term resource planning needs for England and Wales, for up to 50 years, and the practical steps required to meet them.</p>
<p><b>Establish wastewater, sewerage and drainage plans</b></p> <p><b>When:</b> 2020-25, with a Drainage Road Map produced during 2015-20</p> <p><b>When:</b> Governments, water companies, local authorities</p> <p><b>Involved:</b> Regulators</p>	<p>Wastewater services are not subject to a statutory planning framework, but we support the recommendation that service providers should have long-term wastewater, sewerage and drainage strategies in place for PR19. We will consider how we should take these into account alongside WRMPs in our risk-based review of company business plans.</p> <p>Our Water 2020 December consultation states we will expect to see strong evidence of a long-term strategic approach to wastewater planning and service provision in support of any special cost-factor claims.</p> <p>We are also working closely with the sector's 21st Century Drainage project to understand what impact existing drainage planning guidance has had and what, if anything, we can do in the design of PR19 to encourage greater innovation and long-term planning.</p>
<p><b>Improving the understanding of risk and failure</b></p>	<p>We agree that managing risk is at the heart of delivering resilience of systems and services.</p>

Recommendation	Our response
<p><b>When:</b> 2015 - 2020</p> <p><b>Lead:</b> Environment Agency, Natural Resources Wales, water companies</p>	<p>Understanding and managing risks will be something we look for in PR19 business plans and will form part of the risk-based review.</p>
<p><b>Ensure services are resilient under different water sector structures</b></p> <p><b>When:</b> By 2017</p> <p><b>Lead:</b> Governments and Ofwat</p>	<p>This recommendation raises questions about our capacity to regulate a fragmented and evolving sector where not all the stakeholders are within the regulatory, licensed, framework. We recognise these are important questions and commit to building this into our thinking.</p>
<p><b>Develop benchmarking, standards and metrics</b></p> <p><b>When:</b> By 2017</p> <p><b>Lead:</b> Ofwat, water companies and governments</p> <p><b>Involved:</b> Water companies and wider water sector stakeholders</p>	<p>We agree that water companies should develop better measures of resilience as we look to PR19 and beyond and that we need to consider how we take these into account in our assessment of business plans, building on current approaches. We will consider the use of measures as part of our work on outcomes and customer engagement. Further details of our approach in this area can be found in sections 4.1 and 4.2.</p>
<p><b>Ensure existing plans are stress tested</b></p> <p><b>When:</b> 2015-20</p> <p><b>Lead:</b> Governments to set framework for work</p> <p><b>Involved:</b> Water companies, regulators, governments, civil society</p>	<p>It is for companies to consider such a framework and build this into their approach to meeting their resilience obligations. But if we do not have confidence that companies are meeting these obligations, we will consider reflecting this in our requirements for annual performance reports and/or in the risk-based review process for PR19.</p>
<p><b>Establish a water and wastewater resilience action group</b></p>	<p>We look forward to working with all water stakeholders in this area.</p>

## Appendix 1: Our resilience actions and proposals

Action/proposal - what	Action/proposal - how
<b>Overview</b>	
We will continue to work closely with Defra, the Welsh Government, and other regulators and stakeholders to ensure our actions are evidence based, proportionate and effective	As part of our approach to working with relevant stakeholders in all of our programmes.
<b>What we – and the sector – should be doing about resilience</b>	
We will evaluate our policy proposals in light of our statutory duties, including our resilience duty.	As part of all our programmes going forward.
We will take account of the distinct legislative framework and strategic approaches of the UK and Welsh Governments	As part of all our programmes going forward.
We will continue to engage stakeholders on resilience as part of our Water 2020 work and more widely across our portfolio	As part of the Water 2020 programme strand on stakeholder engagement.
<b>Long-term planning</b>	
As our approach evolves we commit to making sure our regulatory framework can take account of (and incentivise) further innovation, including greater use of partnership approaches that bring benefits to customers, the environment and wider society	As part of the Water 2020 programme strand on outcomes and customer engagement.
<p>We will make sure, to the extent we are able to within our statutory framework, that our approach enables service providers to share costs as well as benefits with partners; try out new approaches that allow them to tailor their services against a spectrum of customer preferences; and provide a platform for other sectors such as farming and energy to play their part in solutions.</p> <p>We will want to build on the PR14 approach at PR19 and make allowance for appropriate levels of resilience spending, including schemes that are clearly justified by cost benefit analysis (which should include the benefits of resilience). Resilience schemes and programmes will need to be linked to outcomes that deliver real benefits to customers. As with all other spending, we will be seeking to make allowances for efficient costs – so that customers get the maximum level of resilience and other benefits for the level of allowed costs.</p>	As part of the Water 2020 programme strand on outcomes and customer engagement.
We will want to build on the PR14 approach at PR19 and make allowance for appropriate levels of resilience spending, including schemes that are clearly justified by cost benefit analysis (which should include the benefits of resilience).	As part of the Water 2020 programme.
Our Water 2020 December consultation sets out proposals for encouraging service providers to focus on their customers over the longer term – rather than focusing their effort around periodic price reviews. The consultation considers whether they should commit to longer-term and multi-period outcomes and related incentives.	As part of the Water 2020 programme strands on engagement and risk-based review.



Action/proposal - what	Action/proposal - how
<p>In our Water 2020 December consultation, we say that as part of any special cost factor claims, we will expect strong evidence of:</p> <ul style="list-style-type: none"> <li>customer engagement and acceptability on the proposal itself and its costs;</li> <li>how water resources have been considered in the broadest and most strategic way; and</li> <li>a long-term strategic approach to wastewater planning and service provision.</li> </ul>	<p>As part of our Water 2020 consultation process.</p>
<p>Our proposals for the use of multi-period outcomes and incentives could enable more innovative solutions. As part of our Water 2020 work, we will further consider how the balance of risk and reward can be used to support innovative solutions in the interests of customers.</p>	
<p><b>Resilience through markets</b></p>	
<p>Careful design will be required to maximise benefits and mitigate risks in a way that reflects our statutory duties, (including resilience) and the differing circumstances in England and Wales. We are committed to making sure this happens when we evaluate policy proposals and their impact.</p>	<p>As part of our Water 2020 consultation process.</p>
<p>We have been working with OpenWater – the programme set up by the UK Government to deliver the competitive market by April 2017 – to ensure that a robust licence process is in place, and that market and operational codes exist between retailers and wholesalers to cover such issues as:</p> <ul style="list-style-type: none"> <li>making sure only fit and proper entities can enter the market;</li> <li>making sure customers are protected, including if a retailer fails;</li> <li>water quality testing and water quality incidents;</li> <li>planned and unplanned interruptions;</li> <li>pollution incidents; and</li> <li>resilience of services and systems.</li> </ul>	<p>As part of the Retail Market Opening programme and the Water 2020 programme strand on market design and implementation.</p>
<p>We will continue to work closely with the Drinking Water Inspectorate, the Environment Agency, Natural Resources Wales, Defra and the Welsh Government to ensure market design and the regulatory safeguards led by others interact to maximise benefits and mitigate risks.</p>	<p>As part of the Retail Market Opening programme and the Water 2020 programme strand on market design and implementation.</p>
<p>We are proposing to allocate the regulatory capital value (RCV) across different parts of the value chain, such as sludge and water resources.</p>	<p>As part of the Water 2020 programme strand on market design and implementation.</p>
<p>We are monitoring the ongoing work in the energy sector to ensure that sufficient data is available to customers to support switching and enable them to provide this data to third parties to provide energy efficiency and other services should they wish. We may seek to update the relevant market code once that work has concluded if there are further changes which may be desirable to improve the arrangements based on the energy experience.</p>	<p>As part of the Retail Market Opening programme and the Water 2020 programme strand on market design and implementation.</p>
<p>The Task and Finish Group also raised questions about the impact of differing water sector structures on the delivery of</p>	<p>As part of the Water 2020 programme.</p>

Action/proposal - what	Action/proposal - how
resilience and our capacity to regulate a fragmented and evolving sector where not all the stakeholders are within the regulatory, licensed, framework. We recognise these are important questions and commit to building this into our thinking.	
<b>Customer engagement</b>	
Our Water 2020 December consultation sets out our proposals on the future role of CCGs. We think that CCGs should play an important role challenging and assuring the quality of the company's customer engagement, including on resilience.	As part of the Water 2020 programme strand on design and implementation.
We are proposing that CCG reports cover a number of specific issues, including whether a service provider has engaged with its customers on the resilience of its systems and processes, as well as its services.	As part of the Water 2020 programme strand on design and implementation.
Where appropriate (for example in relation to enhanced service), we also propose that CCG reports address whether a company has engaged with its customers on a range of options, which might include: <ul style="list-style-type: none"> <li>• increasing its own capacity;</li> <li>• purchasing water from another service provider or source;</li> <li>• demand management options; or</li> <li>• a long-term, strategic approach to wastewater planning that also considers more sustainable, flexible solutions.</li> </ul>	As part of the Water 2020 programme strands on engagement and risk-based review. As part of the Water 2020 programme strand on design and implementation.
It also sets out our approach to ensuring high-quality customer engagement on long-term issues, including recommending that CCGs specifically test the quality of company engagement on long-term issues and on resilience	As part of the Water 2020 programme strands on engagement and risk-based review.
Our Water 2020 December consultation is proposing to facilitate more collaboration between CCG Chairs to share best practice, including on how service providers engage with customers on longer-term issues.	As part of the Water 2020 programme strands on engagement.
<b>Measuring resilience – and holding companies to account</b>	
Where appropriate we will continue to use our risk-based approach to assessing and taking action on emerging risks – including risks to resilience.	As part of our Finance and Governance programme strand on monitoring and assuring delivery.
we will pursue informal regulatory action where that is the most appropriate means of making sure that they meet their obligations. Formal enforcement action (such as our powers under section 18 of the Water Industry Act 1991) is likely only to be required to deal with the more serious and/or persistent breaches.	As part of our Finance and Governance programme strand on monitoring and assuring delivery. As part of our Finance and Governance programme strand on monitoring and assuring delivery.

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 trusted and respected regulator, working at the leading edge, challenging ourselves and others to build trust and confidence in water.

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