South Staffs Water

incorporating

CAMBRIDGE
WATER
COMPANY

Resilience action plan

South Staffs Water
(incorporating Cambridge Water)

making
water
count

August 2019

Contents

1. Introduction

We are committed to being resilient 'in the round' when delivering services to customers. This means us having:

- **financial resilience**, which is about our ability to avoid, cope with and recover from any disruption to our finances now and over the long term;
- **corporate resilience**, which is the ability of our governance, accountability and assurance processes to avoid, cope with and recover from disruption of all types, and to anticipate trends and the variability of our business operations; and
- **operational resilience**, which is the ability of our infrastructure – and the skills needed to operate that infrastructure – to avoid, cope with and recover from any disruption to any aspect of our performance and ensure we continue to deliver the secure and reliable water supplies our customers expect.

It also means making sure these components of resilience in the round are embedded in all our decision making. This covers everything we do – from the high-level strategic decisions taken by the Board about how our business is run, to the decisions our field-based teams take to ensure a leaking pipe is repaired first time so that it does not impact on the service we deliver to customers.

This document sets out how we are developing an integrated, systems-based approach to ensure we can continue to deliver resilient services to customers now and over the long term. While we have come a long way in developing our approach and already have a number of procedures and controls in place, we are mindful of the actions we need to take to build on this and enhance our organisational resilience.

Our aim is to implement an approach that more closely aligns our corporate, departmental and personal objectives with our performance commitments and balances this against our business risks, which we assess twice a year and report on in our annual performance report.

We believe this will help us to create a clear line of sight and embed the concept of resilience in the round in all our business as usual activities. In developing our approach, we have drawn on best practice and learnings from across the sector. In addition, we have taken into account Ofwat's resilience planning principles, as set out in its methodology for the 2019 price review[1]. We have also considered Ofwat's focus report on resilience in the round[2] and John Russell's speech[3] to the Utility Week Live conference in September 2017.

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[1] 'Delivering Water 2020: Our methodology for the 2019 price review. Appendix 4: Resilience', Ofwat, December 2017. www.ofwat.gov.uk/wp-content/uploads/2017/12/Appendix-4-Resilience-FM.pdf

[2] 'Resilience in the round: Building resilience for the future', Ofwat, September 2017. www.ofwat.gov.uk/publication/resilience-in-the-round/

[3] 'Preparing for PR19: What are companies expecting for PR19?', John Russell, Utility Week Live, September 2017. www.ofwat.gov.uk/wp-content/uploads/2017/05/Preparing-for-PR19-Utility-Week-Live-speech-John-Russell.pdf

2. Developing an integrated approach to resilience

In developing our integrated, systems-based approach to resilience in the round, we worked collaboratively with industry experts, Arup. This is because we recognised that we needed to incorporate a resilience perspective in our planning, both for the business planning process for the 2019 price review (PR19) and for the longer term. Our starting point for this work was Ofwat's definition of resilience[4], which is that:

> "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."

Working closely with Arup, we used the following process to develop a framework that would enable us to deliver financial, corporate and operational resilience.
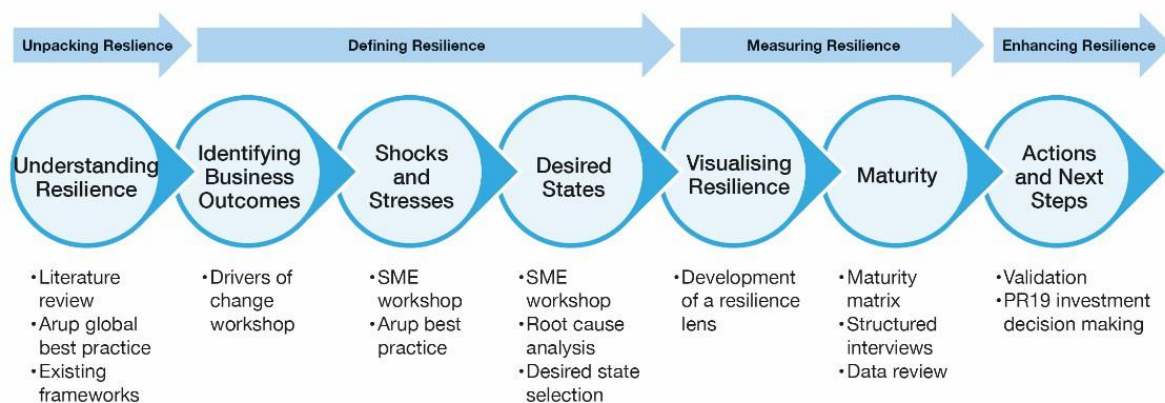
Source: 'South Staffordshire Water Resilience Status Report', Arup, May 2017.

We also considered a number of factors, including national strategies and Ofwat's seven principles of resilience planning. These are set out below, along with an explanation of how they relate to our business.

- **Principle 1: considering resilience in the round for the long term**. This covers a rounded view of our systems and the services we provide, demonstrating our understanding of the interdependencies across the financial, corporate and operational aspects of our business.
- **Principle 2: a naturally resilient water sector.** This concerns how we consider the biodiversity of the natural environment as part of the decision-making process for ensuring resilient services.
- **Principle 3: customer engagement.** This is about how the engagement we carry out helps us to understand our customers' expectations for the levels of service we provide, as well as their appetite for risk and how customer behaviour might influence the approaches we take to delivering resilient services.

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[4] 'Resilience Task and Finish Group: Final report', Ofwat, December 2015. www.ofwat.gov.uk/publication/resilience-task-and-finish-group-final-report/

- **Principle 4: broad consideration of intervention options.** This is about our awareness of the mitigating actions and interventions that we may need to take to ensure our overall resilience, including response and recovery.
- **Principle 5: delivering best value solutions for customers.** This is about making sure we always operate in the best interests of our customers – now and in the long term.
- **Principle 6: outcomes and customer-focused approach.** Our approach to being resilient in the round informs our outcomes, which are the promises we have made to our customers on the services we will deliver. In developing our outcomes, we take into account future risks and customer preferences.
- **Principle 7: Board assurance and sign off.** Our Board has been actively engaged in the development of our business plan for 2020 to 2025 and has considered the resilience of our systems and services, and our customers' views and interests.

2.1 Identifying business outcomes

In developing our approach to resilience as part of our PR19 business plan, we began by identifying our key business outcomes. These are the things we must continually deliver for our customers if we are to be a successful and resilient water company. Through workshops and interviews facilitated by Arup, we identified the following eight business outcomes.

Water Quality
Water quality risks known and managed

Social Responsibility
Fair bills and supporting vulnerable groups

Customer Experience
Excellent customer service and interaction

Shareholder Risk and Return
Managing risks for our investors

Environmental
Minimising the environmental impact of activities

Future Reforms
Good foresight and positioning for the future

Secure and Reliable Supplies
Resources and distribution that are flexible and diverse

Health, Safety & Security
Safe and secure for our people and our systems

Source: 'South Staffordshire Water Resilience Status Report', Arup, May 2017.

We then developed these further to reflect our performance commitments and align them with the promises we have made over the period 2020 to 2025 for our customers, our communities, the services we deliver, the environment, and our business.

2.2 Shocks and stresses

Once we identified the business outcomes, we then focused our attention on a list of possible disruptive events and long-term strains that could impact on our ability to deliver resilience in the round. In short, they represent the biggest challenges to us as a business. Again, we used workshops and interviews with key internal and external stakeholders to help us understand the root causes of each of the shocks and stresses we identified, along with any mitigation measures we might need to put in place. The main shocks and stresses we identified are set out below.

Shocks	Stresses
Extreme weather event	Reduced water resource yield because of climate change
Unprecedented peak demand	Market competition
Failure of critical assets	Political and economic uncertainty
Failure of critical systems	Increased demand
Raw water source compromised	Deterioration of raw water quality
Deliberate attack	Poor asset condition
Regulatory change	More difficult regulatory requirements
Regulatory breach	Increase in cost of supply
Lack of workforce skills and knowledge	Workforce culture
Loss of customer trust and goodwill	Loss of customer trust and goodwill

2.3 Desired states

We used this list of shocks and stresses to influence the development of a number of 'desired states'. These are the statements that we consider reflect a resilient business – that is, they reflect the characteristics that enable us to mitigate and bounce back so that we can continue to deliver the levels of service our customers always expect. We used a robust approach to develop our desired states, focusing our attention on what good would look like.

Below we set out each desired state and a brief description of what it means for our business.

Desired state	What it means for us in terms of resilience
A financeable business understanding robust stress tests	This is about being financeable over the long term. A resilient business will consider its financial viability over the long term and be able to maximise the stability of its returns to investors at an appropriate value.
Advanced knowledge of potential regulation changes	These desired states relate to the changing environment in which the water companies operate. A resilient business will understand and be able to react quickly to changing political or regulatory circumstances.
Proactive sector shaper	
A mature approach to security	This is about having a well-developed approach to security. A resilient business will have a mature approach to physical and personal security, and also to the rapidly emerging threat of cyber-attacks. It will also employ the five layer approach of identify, protect, detect, respond and recover.

Desired state	What it means for us in terms of resilience
Safe working environment and culture	This is about the health and wellbeing of employees. A resilient business will have a culture of positive behaviours underpinned by, among other things, clear leadership and prioritisation of health, safety and wellbeing at all levels; appropriate training to ensure competence at all levels; and continuous improvement and performance monitoring.
Excellent insight and communication with customers and communities	These desired states are essential for enabling customer interaction and for understanding what drives them to make the decisions they make about their water use. They are also about understanding customers' ability to pay their bills. A resilient business will be embedded within the communities it serves and understand who its customers are. It will also be able to respond to their needs in a way that recognises those customers as individuals.
High levels of trust and affordable service for all	
Delivering excellent service	This is about maintaining customers' trust in us and the services we deliver. A resilient business has its customers trust and respect, meaning they are more likely to engage with messages and change their behaviours accordingly – for example, around using water wisely.
Understand/able to influence catchment activities, including early warning of raw water quality	This is about understanding major risks within water catchments. A resilient business will have strong communication links with landowners and land users to influence catchment use and to get early warning of any potential deterioration in raw water quality. Mitigations could include temporarily using alternative supplies or making use of additional treatment processes, for example.
Robust treatment processes delivering excellent water quality	This desired state articulates the need for treatment systems that are fit for purpose and able to cope with future challenges. A resilient business will have identified a full range of potential future pollutants with appropriate mitigation methods available.
Distribution and network water quality risks known and managed	These desired states emphasise the importance of preserving water quality while it is in the distribution network and having the flexibility to be able to move water around quickly and efficiently. A resilient business will be confident that customers are either satisfied with, or do not notice changes in their water, and that they will always be able to turn on the tap and receive clean, high-quality water supplies.
Safeguarding excellent water quality through the distribution system to customers' taps	
Reliability: a consistent supply that can withstand events	This is about making sure that demand for water is always met as a resilient business will have reliable a reliable, well-maintained asset base.
Flexibility: the ability to reconfigure and operate system in different ways	This describes the degree of flexibility needed to reconfigure the system to respond to events. A resilient business will have a number of options available, and will be able to withstand events and be flexible enough to respond quickly.
Diversity: system is designed to have a variety of unconnected sources and routes to customers	This is about the diversity of the water supplies available. A resilient business will have a range of different, unconnected water sources, such as rivers and groundwater, each of which will have a different level of response to drought, heavy rainfall or pollution. It will also be able to satisfy demand from a different combination of these water sources.
Company has appropriate programme in place for customer education and behavioural change	This reflects the importance of educating future generations about the need to use water wisely. A resilient business will have education programmes can help to encourage current and future customers to understand the impact they have on the environment and encourage them to respond to messages about changing behaviours.
Active and formalised carbon management strategy to account for and minimise carbon emissions	This desired state is about minimising carbon emissions in line with national targets and international goals. A resilient business will have a mature and well-developed in-depth understanding of both operational and embedded carbon with a comprehensive reduction plan in place that is used in decision making and to drive behaviours.

Desired state	What it means for us in terms of resilience
Low levels of leakage generally, and especially responsive to visible leaks	This is about the informal contract that exists between company and customers to reduce leakage. A resilient business will have low levels of actual visible leakage, but will also respond quickly to reports from customers about water wastage.

It should be noted that the desired states reflect current challenges facing us and that they are likely to evolve over time.
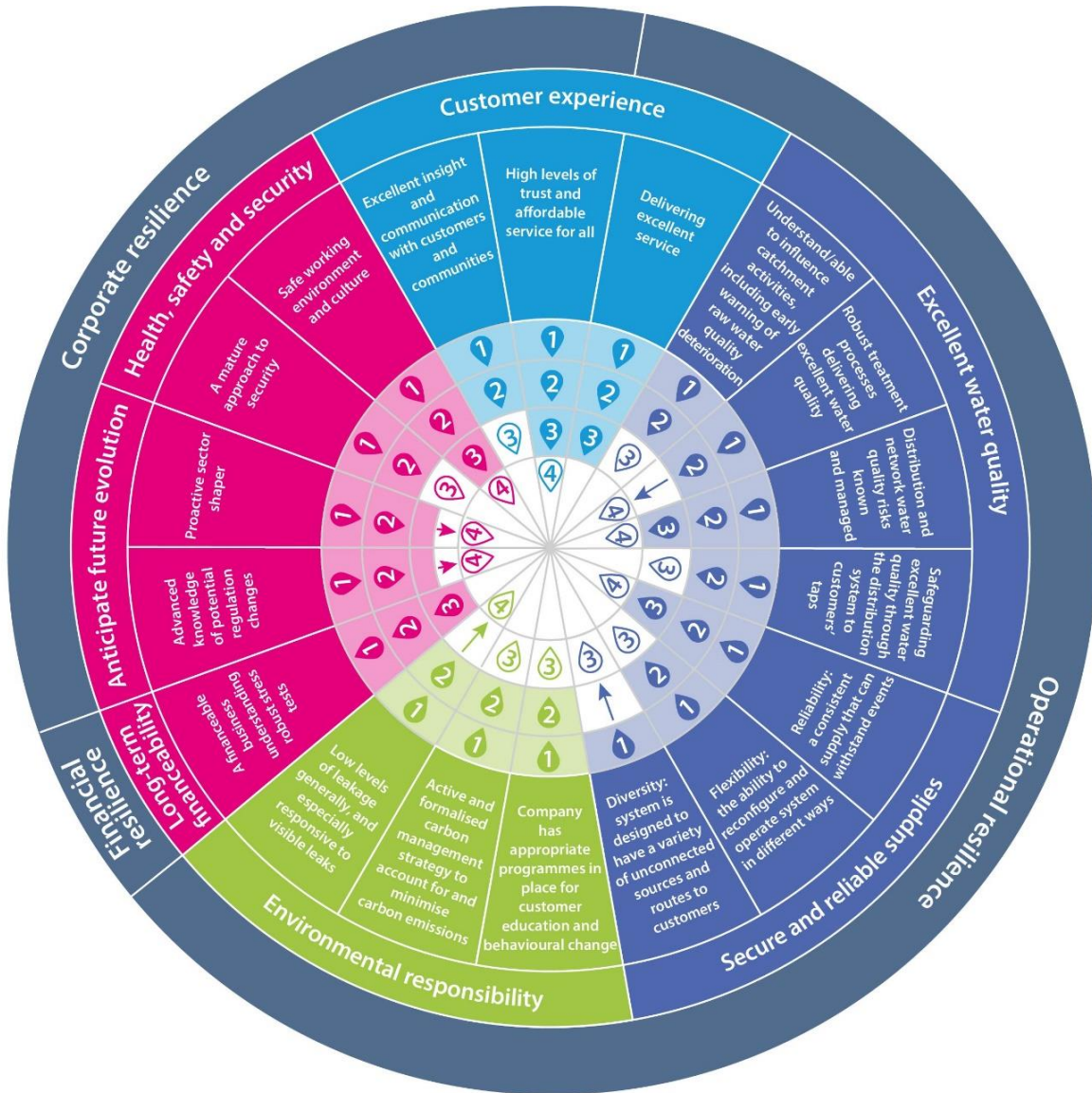
2.4 The resilience lens

After identifying the desired states and what they mean for a resilient business, we worked with Arup to develop our innovative 'resilience lens'. This provides a structured and robust way to assess our overall resilience as a business. It enables us to see where we are currently in terms of the maturity of our resilience and where we will be at the end of the PR19 planning period in 2025.

The resilience lens comprises the following four elements.

- The outer ring aligns to the three factors that Ofwat considers makes a business resilient in the round – financial resilience, corporate resilience and operational resilience.
- The next ring reflects the overarching business outcomes identified at the start of the process. These broadly align with the promises we have made to our customers over the period 2020 to 2025 and the performance commitments that underpin these promises.
- The third ring sets out the desired states that we consider reflects a resilient business.
- The inner ring contains a scoring mechanism that enables us to assess our resilience maturity against the desired states.

We illustrate our resilience lens below.

Key

Where we think our projected maturity matrix scores will be by 2025

③ → ④

① **Limited application**
Where we have not yet demonstrated resilient working, but are considering it for the future

② **Low level of maturity**
Where we understand resilient working, but only apply it within isolated cases

③ **Medium level of maturity**
Where we demonstrate an understanding of resilient and can demonstrate its adoption within most of our activities

④ **High level of maturity**
Where we fully integrate resilient working into all our operational processes

2.5 Measuring our resilience maturity

Our ambition is to enhance our resilience through targeted investment in PR19 and in subsequent price reviews. To enable us to do this, we have to understand where we are currently in terms of our resilience and identify those areas where we need to improve. To facilitate this, we worked with

Arup to develop a maturity matrix, which we can use to assess how we are performing against the desired states of the resilience lens. We have given each maturity level a score of one to four – where one is where we have not yet demonstrated resilient working and need to improve; and four reflects a high level of resilience maturity. Please see appendix 1 for our complete maturity matrix.

2.6 Managing risk – the resilience framework

Underpinning our approach to resilience in the round is our resilience framework. This integrates the processes we already have in place to deliver resilience and mitigate the risks associated with this with our corporate, departmental and personal objectives, and our performance commitments. This approach is designed to encourage and embed a more holistic and ongoing bottom-up and top-down resilience improvement process within our business. We will continue to develop and implement any controls, processes and systems to ensure we mitigate any identified risks to the business, and that resilience metrics are monitored and targets achieved.

We set out our resilience framework below.
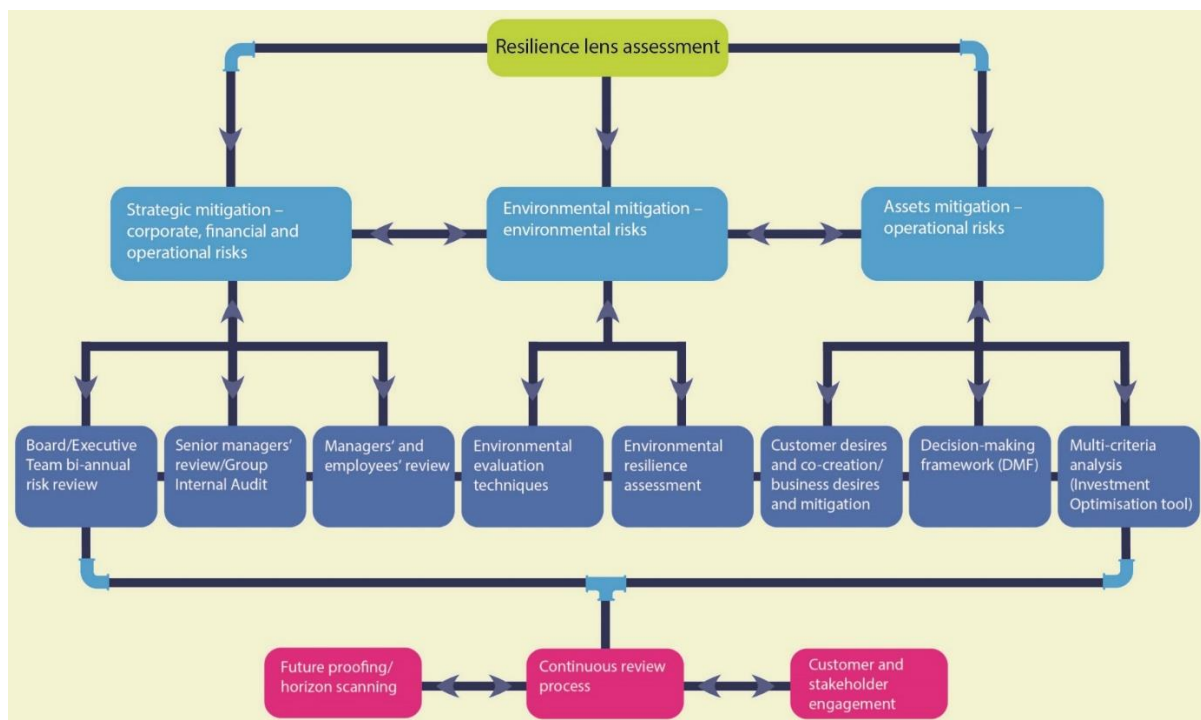
3. Collaborating with others

We are aware that delivering resilience in the round is not something we can achieve in isolation. It requires collaboration with other stakeholders within and beyond the wider water sector. We already work collaboratively with a number of other organisations. For example, we are active members of the Water Resources in the East (WRE) and Water Resources in the West (WRW) groups, both of which work with agriculture, industry and the energy sector to help ensure the resilience of the water supplies in both our South Staffs and Cambridge regions.

We also engage with national environmental and local interest groups, and collaborate locally with wildlife trusts, such as the Birmingham and Black Country Wildlife Trust, as well as with schools and community groups through our PEBBLE biodiversity improvement fund. In addition, we actively work with the national drought group and with water efficiency groups such as Waterwise and Water UK's water efficiency and water resource networks. And through our bid assessment framework, we are engaging with third parties who may be able to provide us with new sources of water or other potentially innovative goods and services that could help our overall resilience.

Finally, we work closely with our neighbouring water companies – Severn Water and Anglian Water – through our ongoing catchment management programme with farmers and landowners in the River Severn catchment and as part of the entrade initiative to grow natural capital.

4. Resilience action plan

In developing this action plan, we have identified a number of schemes and activities from our business plan for 2020 to 2025 and our wider business that we consider contribute to our overall resilience. It should be noted that our ability to implement this plan in full is subject to Ofwat's final determination of our business plan, which will be published in December 2019.

4.1 Financial resilience

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
Long-term financeability	A financeable business understanding robust stress tests	Principle 1: considering resilience in the round for the long term	Commit to demonstrating in our next long-term viability statement that our assessment of financial resilience extends beyond 2025	Complete	15 July 2019	This is an annual commitment, which we report on in our annual performance report (APR)

4.2 Corporate resilience

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
Anticipating future evolution	Advance knowledge of potential regulation changes	Principle 1: considering resilience in the round for the long term	Continue to enhance our relationship with the Environment Agency	In progress	March 2020	This is to enable us to improve our horizon scanning, and prepare and put in place actions for any future regulatory environmental changes

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
	Proactive sector shaper	Principle 1: considering resilience in the round for the long term	Consider business models for new water resource markets	In progress	March 2022 (the current date for legislation in the Water Act to be enacted)	This is to help us to improve our horizon scanning, understand the level of risk in the new market and to ensure we are compliant with all relevant competition rules
Health, safety and security	A mature approach to security	Principle 4: broad consideration of intervention options	Continue to ensure security matters are at the heart of all our decision making, business planning and processes	In progress	Ongoing	Much of our focus over the past 12 months has been on our Brexit planning, with both a Brexit Steering Group and Incident Team in place internally to manage any impacts associated with a no-deal Brexit In addition, we have put in place a new Emergency Plan, incorporating the lessons learned from the 'Beast from the East' freeze/thaw event in March 2018, and extended the Incident Team, providing training to 109 people from across the business We also have an Information Security Steering Group in place, which plans and manages our internal network and infrastructure systems, and which manages cyber-security risks. A cyber-security e-learning training module has been rolled out to all our people. And we comply with NCSC NIS security guidance Physical security enhancements continue to be rolled out across our operational sites, in line with requirements from Defra to have all sites up to current standards by March 2020. We are on track to meet this target

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
	Safe working environment and culture	Principle 4: Broad consideration of intervention options	Ensure a proactive culture of health and safety is embedded across the business	In progress	Ongoing	We have an aspiration to be a zero injury workplace by 2025. In 2018/19. We achieved our best-ever performance – with only four minor incidents across the business and no reportable incidents under the Health and Safety Executive's RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013)

We are committed to changing behaviours associated with work-related accidents and a continued understanding among our people of the risks around their roles. As part of this, we share regular 'safety snapshots', highlighting positive actions and behaviours

We have also been proactive in using our internal communications channels to link to external health management initiatives to promote wellbeing among our people |

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 1: considering resilience in the round for the long term	Ensure effective succession planning across the business	In progress	Ongoing	Over the past few years, we have focused our attention on succession planning. This includes: • recruiting an additional 4 apprentices to join the 13 already in place • running a supervisor development programme for new line managers and to upskill current managers • making sure that all our operational people involved with the production of water are appropriately trained We now have a matrix of roles across the business with succession options in place for them
		Principle 1: considering resilience in the round for the long term	Achieve Investors in People accreditation	In progress	31 March 2021	This will give us clear benchmarking and development milestones that we can communicate to our customers. We will combine this with a net promoter score approach to ensure a more rounded approach to employee engagement
Customer experience	Excellent insight and communication with customers and communities	Principle 3: customer engagement	Set up a Young Innovators' Panel in our Cambridge region	Complete	11 July 2019	18 students drawn from 6 schools across the Cambridge region attended a briefing day on 11 July 2019 – part of this included setting them their core task. The Young Innovators' Panel will reconvene in September 2019 to present their response to the core task

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 3: customer engagement	Set up an online community panel to track customer priorities and give us regular insight across a range of topics	In progress	April 2020	The online community is currently in build and development phase and a trial will start in October 2019, with a full launch to a wider customer base in April 2020
		Principle 3: customer engagement	Introduce our five customer segments to all our customer-facing people and map them against our customer database	In progress	31 March 2020	Workshops and training sessions will be held in Q1 of 2020/21 for head office and customer-facing people
		Principle 3: customer engagement	Implement tailored communication strategies based on our five customer segments	In progress	31 March 2020	Additional customer engagement and analysis is being carried out to refine the segmentation and develop an algorithm to back-populate the wider customer database
		Principle 5: delivering best value solutions for customers	Improve our online functionality to include 'move in/move out', leak reporting and job tracking	In progress	Ongoing	We have launched a leak reporting function on both our website and within our mobile app We are currently developing our 'move in/move out' function, and will be launching it towards the end of 2019
		Principle 5: delivering best value solutions for customers	Implement chatbot technology across a number of customer-facing processes and expand our Alexa capability to enable customers to switch to a lived phone call	In progress	Ongoing	We are continuing to develop our digital capability as a business. This includes developing additional functionality for our Alexa skill and mobile app

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 5: delivering best value solutions for customers	Implement an online portal with self-serve functionality for developers	In progress	December 2019	We have launched a three-phase project to develop and implement an online Developer Services portal. This will give developers (including NAVs) the opportunity to self-serve for quotations and to track applications. This web-based portal will consider options to provide location plans, and links to planning and scheduling, as well as payment options
	High levels of trust and affordable service for all	Principle 5: delivering best value solutions for customers	Implement a new debt management system with embedded AI to enable us to identify changes in payment behaviours and create more tailored journeys for debt management	Complete	April 2019	—
		Principle 5: delivering best value solutions for customers	Use text-to-pay technology for certain customers, offer payment breaks for those experiencing financial difficulties and offer micro-payments to help customers manage their payments more effectively	In progress	Ongoing	We have completed a trial of text-to-pay technology and will use our in-house text solution to prompt customer payment. We started using text messages to prompt payment in July 2019

4.3 Operational resilience

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
Customer experience	Delivering excellent service	Principle 6: outcomes and customer-focused approach	Continue to offer an excellent service to all our customers	In progress	Ongoing	There are three elements to this work • Digital development – offering our customers access to our services 24/7 • Channel development – increasing our webchat capability, improving our existing email/phone channels and continuing to reduce the number of complaints • Excellent service delivery – C-MeX and ICS ServiceMark action plan
Excellent water quality	Understand/ able to influence catchment activities, including early warning of raw water quality deterioration	Principle 2: a naturally resilient water sector	Expand our SPRING environmental protection scheme to include a further three groundwater catchments covering 15 sites from where we take water	In progress	31 March 2025	We will expand the scope of our well-established SPRING environmental protection scheme over the five years from 2020 to 2025 (AMP7)
		Principle 2: a naturally resilient water sector	Prevent deterioration in the quality of water sources from where we take our drinking water – evaluating up to 50 sites	In progress	31 March 2025	Our catchment management programme to prevent raw water deterioration is well established. We will expand the number of sites this covers during AMP7

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 2: a naturally resilient water sector	Improve up to 1,000km of rivers across both ours South Staffs and Cambridge regions	In progress	31 March 2025	We improve rivers and water courses in both our South Staffs and Cambridge regions through our National Environment Programme (NEP), our catchment management work and our SPRING activity. Some of the PEBBLE biodiversity schemes we fund can also improve the quality of water courses
	Robust treatment processes delivering excellent water quality	Principle 1: considering resilience in the round for the long term Principle 3: customer engagement Principle 4: broad consideration of intervention options Principle 5: delivering best value solutions for customers Principle 6: outcomes and customer-focused approach	Upgrade our water treatment works at Hampton Loade and Seedy Mill by introducing an additional treatment stage and dual streaming	In progress	Construction phase for both works to be complete by March 2024	As defined by our performance commitment on our water treatment works delivery programme
	Distribution and network quality risks known and managed	Principle 6: outcomes and customer-focused approach	Renew 250km of small diameter mains	In progress	31 March 2025	–
		Principle 6: outcomes and customer-focused approach	Renew 13km of large diameter PVC mains and a 3.9km section of strategic trunk main	In progress	31 March 2025	–

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 5: delivering best value solutions for customers Principle 6: outcomes and customer-focused approach	Replace communication pipes where there is leakage, poor water pressure and a risk to water quality	In progress	31 March 2025	–
	Safeguarding excellent water quality through the distribution system to customers' taps	Principle 4: broad consideration of intervention options Principle 5: delivering best value solutions for customers Principle 6: outcomes and customer-focused approach	Carry out a programme to clean 100km of strategic trunk mains leaving the Hampton Loade and Seedy Mill water treatment works	Planning phase to state in 2022/23	31 March 2025	As defined by our performance commitment on our water treatment works delivery programme. This work is integral to delivering the benefits of the water treatment works upgrade to customers as quickly as possible
		Principle 6: outcomes and customer-focused approach	Improve nitrate and pesticide treatment at three sites in our South Staffs and Cambridge regions	In progress	Timescales have been agreed with the DWI for delivery and regulatory notices put in where applicable	The work is supported by DWI notices
		Principle 6: outcomes and customer-focused approach	New treatment at three groundwater sites to address Chlorthal	In progress	All three sites commissioned by 2024/25	–

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
		Principle 6: outcomes and customer-focused approach	Carry out remedial works on service reservoirs and storage towers in our Cambridge region, including installing new roof membranes at three sites, reinforcing floor and wall joints at six sites and applying protective coatings to floors, walls and internal pipework at six sites	In progress	31 March 2025	Remedial works will be completed when each respective site is taken out of supply for its next scheduled inspection (as part of our ongoing rolling cleaning and inspection programme)
		Principle 6: outcomes and customer focused approach	Refurbish two service reservoirs in our South Staffs and Cambridge regions	In progress	31 March 2024	–
		Principle 6: outcomes and customer-focused approach	Refurbish Crumpwood borehole and treatment assets	In progress	31 March 2023	–
		Principle 6: outcomes and customer-focused approach	Renew Little Hay treatment facility and refurbish water production assets	To start in 2020 to 2025 planning period	31 March 2025	–
Secure and reliable supplies	Reliability: a consistent supply that can withstand events	Principle 5: delivering best value solutions for customers	Invest in a 'smart' network to give us better information about how our network operates	In progress	31 March 2025	–
		Principle 6: outcomes and customer-focused approach	Increase storage capacity at Bourn reservoir	In progress	April 2022	At the time of writing, we are awaiting Board approval to award the contract. Site works are due to start in April 2020
	Flexibility: the ability to reconfigure and operate system	Principle 1: considering resilience in the round in the long term	Replace our existing SCADA system	In progress	Phased implementation through to December 2022	The programme to replace our SCADA and telemetry systems started in March 2019

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
	in different ways	Principle 1: considering resilience in the round in the long term	Continue with our proactive control systems and processes replacement programme	In progress	Scheduled completion date: October 2020	This work is being carried out as part of our Enhancing our Ways of Working programme (process improvement and Maximo upgrade), which started in January 2019
	Diversity: system is designed to have a variety of unconnected sources and routes to customers	Principle 6: outcomes and customer-focused approach	Continue our borehole investment programme	Ongoing	Ongoing	–
Environmental responsibility	Company has appropriate programme in place for customer education and behavioural change	Principle 2: a naturally resilient water sector Principle 3: customer engagement	Continue to use water audits and supply water efficiency devices to encourage customers to use water wisely	Ongoing	Ongoing	We have a legal duty to promote water efficiency. We will continue to do this before, during and after AMP7
		Principle 2: a naturally resilient water sector Principle 3: customer engagement	Develop a water savings scheme for schools to inform pupils how they can save water and influence behavioural change	In progress	December 2019	We currently piloting the scheme with a primary school in our South Staffs region, which is helping us to develop a robust, fit-for-purpose programme
		Principle 3: customer engagement	Set up a dedicated section on our website to enable schools to update us on our progress	In progress	Late 2020	–
		Principle 3: customer engagement	Extend our education outreach programme to secondary schools	In progress	April 2020	Our approach in this area has been co-created with our Young Innovators' Panel
	Active and formalised carbon management	Principle 2: a naturally resilient water sector	Reduce our carbon footprint, including using alternative energy sources for treating and pumping water	In progress	31 March 2025	–

Business outcome	Desired state	Link to Ofwat's resilience planning principles	Action	Status	Completion date	Notes/commentary
	strategy to account for and minimise carbon emissions	Principle 2: a naturally resilient water sector	Commit to save 7kg of carbon per connected property	In progress	31 March 2025	–
		Principle 2: a naturally resilient water sector	Replace 75% of our light vehicle fleet to hybrid or electric vehicles by 2025	In progress	31 March 2025	–
	Low levels of leakage generally, and especially responsive to visible leaks	Principle 2: a naturally resilient water sector Principle 3: customer engagement Principle 5: delivering best value solutions for customers Principle 6: outcomes and customer-focused approach	Reduce leakage by 25% in our South Staffs region and 15% in our Cambridge region	In progress	31 March 2025	–
		Principle 2: a naturally resilient water sector Principle 3: customer engagement Principle 6: outcomes and customer-focused approach	Repair 90% of visible leaks in four days by 2024/25	Ongoing	31 March 2025	–

Appendix 1: Maturity matrix

Please note that the shaded areas in the maturity matrix below relate to our view of where we think we will be by 2024/25 and correspond with the scores on the resilience lens.

What we want to achieve	Desired state	Level of maturity			
		1 – Limited application	**2 – Low level of maturity**	**3 – Medium level of maturity**	**4 – High level of maturity**
		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
Customer experience	Excellent insight and communications with customers and communities	Company has a very limited understanding of customer views and segmentation, and communications are generic and standard. Standard communications technology only. Minimal formal company participation in community.	Company has carried out some detailed customer research and has broad understanding of different customer segments. Communication is targeted to a small degree with some limited community engagement. Minimal use of new technology in limited circumstances. Limited business as usual insight.	Company is informed by some detailed customer research, with segmentation and tailoring of activities to community needs. Community participation is in place with a few local community contacts. New technology is widely used at a generic level. Integrated business as usual insight in decision making.	Company has a robust and well-informed strategy for customer and community engagement, and wide-scale participation and mutually beneficial collaboration based on extensive customer research, segmentation, community contacts and targeted communications. New technology is deployed as normal and targeted to meet customer segmentation preferences. Multi-channel approach that draws on behavioural science techniques to provide an effective customer experience.

What we want to achieve	Desired state	Level of maturity			
		1 – Limited application	2 – Low level of maturity	3 – Medium level of maturity	4 – High level of maturity
		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
	High levels of trust and affordable service for all	Moderate levels of trust and value for money scores on all surveys. Affordable bills.	Moderate levels of trust and value for money scores on all surveys. Affordable bills. Some evidence of segmentation and vulnerable customer engagement.	High levels of trust and value for money scores on all surveys. Affordable bills – future customers fully engaged and future bill levels/scenarios tested. Strong evidence of segmentation and vulnerable customer engagement. Some evidence of co-creation in decision making.	High levels of trust and value for money scores on all surveys. Affordable bills – future customers fully engaged and future bill levels/scenarios tested. Strong evidence of segmentation and vulnerable customer engagement, including transient vulnerable customers. Strong evidence of co-creation in decision making.
	Delivering excellent service	Lower quartile customer satisfaction performance. Poor customer systems, our people not particularly well trained or knowledgeable. Systems inhibit sense of responsibility and ownership from our people. Poor company culture and morale. 'One size, fits all' service offering, no delineation of offering based on need. Single channel of engagement with customers.	Mid-quartile customer satisfaction performance. Reasonable customer systems, our people are relatively well trained and knowledgeable. Company culture focused on delivering good customer service. Minor modifications to a 'one size, fits all' service offering. A series of conventional channels with little innovation.	Mid- to upper quartile customer satisfaction performance. Reasonably motivated and knowledgeable people, who have some ownership of issues. Customer systems in place are moderately effective. Company culture focused on delivering good customer service. Tailoring of the service offering to customers' generic needs. Limited range of contemporary engagement channels reaching the full breadth of customers.	Top quartile customer satisfaction performance. Effective systems that encourage ownership, responsibility and engagement from across the whole supply chain. Our people are well trained and motivated, with great company culture and morale. Service offering is tailored to customers' specific needs. Extensive range of contemporary engagement channels reaching the full breadth of customers.

What we want to achieve	Desired state	Level of maturity			
		1 – Limited application	**2 – Low level of maturity**	**3 – Medium level of maturity**	**4 – High level of maturity**
		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
Excellent water quality	Understand and able to influence catchment activities, including early warning of raw water quality deterioration	Basic qualitative understanding of existing catchment activities and their impact on water quality. Limited or poor relationships with land users. Manual, interval-based water quality monitoring. Water quality monitors have a limited number of parameters, modest sensitivity and are unreliable. Surface water quality monitoring only.	Good qualitative understanding of existing catchment activities and impact of potential changes in use. Developing relationship with land users. Manual, interval-based water quality monitoring with some limited automated systems. Water quality monitors have a few parameters, modest sensitivity and are fairly reliable. Surface water quality monitoring only.	Good understanding of existing catchment activities and their impact on water quality. Good relationship with land users, with some initiatives in place. Some limited automated responses in place. Modern, reliable, multi-parameter, sensitive online monitoring for surface water. Groundwater quality is considered and basic aquifer monitoring in place. Some limited quantification of financial benefits of changed catchment activities.	Good understanding and ability to quantify financial benefits of changed catchment activities. Great relationship with land users and a number of advanced initiatives in place. Automated response to alert. Modern, reliable, multi-parameter, sensitive online monitoring for surface water. Ongoing research into emerging technologies for monitoring. Appropriate and selective monitoring of groundwater quality in upstream aquifer.
	Robust treatment processes delivering excellent water quality	Unacceptable risk of water quality failure from treatment works. Limited scope to shut down. No alternative supplies.	Manageable level of risk of water quality failure from treatment works. Limited scope to shut down. No alternative supplies.	Manageable level of risk of water quality failure from treatment works, with monitoring in place. Limited scope to shut down. Limited alternative supplies.	Manageable level of risk of water quality failure from treatment works, with enhanced monitoring in place. Able to manage shut down process. Range of viable alternative supplies.

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		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
	Distribution and network water quality risks known and managed	No consideration of risks. No risk assessment or management plan. Water quality impacts on customers not considered in the operations.	Risks assessed for limited number of service reservoirs and distribution system discolouration. Limited management plan. Limited understanding on how operations affect water quality, leading to reactive management of issues.	Risks assessed for most service reservoirs, trunk mains and distribution system discolouration. Management plans in place for ensuring maintenance of water quality. Good understanding on how operations affect the variability of water quality and managed proactively.	Risks assessed for all service reservoirs, trunk mains and distribution system discolouration, and comprehensive management plan implemented and regularly tested. Management plans in place, and routinely tested to ensure water quality is maintained. Thorough understanding on how operations affect the variability of water quality and managed proactively. Maintenance of a flexible network enable water quality to be maintained at all times.
	Safeguarding excellent water quality through the distribution system to customers' taps	No consideration of risks. No risk assessment or management plan in place. No customer education programme. No plumbosolvency treatment.	Consideration of risk assessment. Management plan in place. Limited customer education programme. Optimised plumbosolvency treatment across all sources. Targeted lead pipe replacement of a small number of the most vulnerable customers.	Consideration of risk assessment. Management plan in place. Targeted customer education programme. Optimised plumbosolvency treatment across all sources. Targeted lead pipe replacement for most vulnerable customers.	Best practice risk assessment. Best practice management plan in place. Leading customer education programme. Optimised plumbosolvency treatment across all sources. Removal of all lead within our supply system.

What we want to achieve	Desired state	Level of maturity			
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		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
					Leading best practice to remove all products that could cause a detriment to water quality from the market.
Secure and reliable supplies	Reliability: a consistent supply that can withstand events	Small disturbances cause major disruptions, high level of unplanned outage and an inconsistent supply/output. Reactive system only, with lots of unexpected variations. Limited asset health measures in place. Poor asset health.	Some understanding of future potential events that could occur, but still reactive. Fairly slow recovery from unexpected events, with each requiring bespoke solutions. Moderate understanding of asset-related risks, with moderate asset health. Minimal understanding of external influences.	Moderate understanding of future potential events, with some limited proactive contingency plans in place. Reasonable recovery from unexpected events. Decent understanding of asset-related risks, good asset health. Reasonable understanding of external influences.	Small disturbances cause little to no disruption, with minimal outage and a consistent supply/output. Proactive operation with well-rehearsed contingency plans in place for a range of potential events and rapid recovery. Comprehensive understanding of asset-related risks, with excellent asset health. Comprehensive understanding of external influences on system with communication/education in place to influence/minimise risk. All customers have an alternative supply.

What we want to achieve	Desired state	Level of maturity			
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		Where we have not yet demonstrated resilient working, but are considering it for the future	Where we understand resilient working, but only apply it within isolated cases	Where we demonstrate an understanding of resilience and can demonstrate its adoption within most of our activities	Where we fully integrate resilient working into all our operational processes
	Flexibility: the ability to reconfigure and operate system in different ways	Limited scope for reconfiguration of entire supply system in the event of loss of major source.

No scope for deployable assets to be taken out of supply.

Unknown number of customers reliant on a single source. | Modest ability to reverse flows or reconfigure supply system.

Critical assets well defined and can all be taken out for short periods without a noticeable effect.

Significant number of customers reliant on a single source. | Large-scale flow reversals possible in key areas.

Some scope for reconfiguring the system to release locked-up deployable output.

Critical assets are well defined and can be taken out for extended periods with little effect, with plans in place and occasionally exercised.

Active programme to gradually reduce customers at risk by reducing the number of customers reliant on a single source. | Highly interconnected network with numerous supply sources and routes to the customer, and the ability to re-zone in the event of a major loss of supply.

Control systems allow automatic reconfiguration in near real time. Impacts of network connectivity and flows very well understood.

All critical assets can be taken out for significant periods of time and no one is affected at any point throughout the year.

Well-established and proactive culture with well-practised reconfiguration plans. |

What we want to achieve	Desired state	Level of maturity			
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	Diversity: the system is designed to have a variety of unconnected sources and routes to customers	Reliance on few connected major water sources only for majority of supply to all customers. Limited alternative source options. Limited strategic storage. No significant bulk imports.	Reliance on few major water sources for most of the supply to customers. Some alternative source options from other appropriate geographic or source types. Modest strategic storage. Modest volumes of bulk import available.	Reliance on several major water sources for most supplies to customers. Several geographic and appropriate source types available, with considerations of economic and practical implications. Reasonable strategic storage. Reasonably large bulk imports available.	All water supply zones have more than one source of supply available. High degree of diversity in appropriate source types and geographic locations, with robust economic and practical considerations and plans in place. Considerable strategic storage. Well-established trades and bulk imports available, and network routinely tested to manage introduction. No single points of failure in supply system.
Environmental responsibility	Company has appropriate programmes in place for customer education and behavioural change	Company has few behavioural change initiatives and limited education programmes in place. No formal measurement of value of engagement/education programmes. Little understanding of costs.	Few, small and emerging behavioural change initiatives in place, although benefits are not yet quantified. Costs of delivery are approximate and not allocated to specific activities or initiatives.	Company has a broad strategy for customer education and community engagement, with a few behavioural change initiatives in place. Behavioural change measures are in development, with some benefits being measured. Costs of delivery programmes are understood.	Company has a robust and well-informed strategy for customer education and wide-scale behavioural change. Behavioural change measures are in place and show tangible benefits delivered. Costs of delivery programmes are well understood and prioritised to deliver maximum benefit.

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	Active and formalised carbon management strategy to account for and minimise carbon emissions	Carbon is accounted for, but in an unstructured manner with no clear strategy and does not influence any decision making.	Operational carbon is accounted for in a structured manner. Reduction is considered within the company but driven by cost considerations only.	Consistent carbon accounting for all operational and some embodied (embedded) carbon. Carbon reduction plan is applied and is occasionally used in periodic investment decision making only.	In-depth understanding and accounting for both operational and embodied carbon. Consistent and effective carbon accounting process that influences decision-making process on a regular, strategic and tactical basis.
	Low levels of leakage generally, and especially responsive to visible leaks	Lots of visible leakage and a slow response to wastage. Repairs prioritised purely on economics.	Reasonably high level of visible leakage and a relatively slow response time. Public reputation is deemed important, but cost is still preferential.	Relatively low levels of visible leakage and a relatively quick response to any waste reported. Public reputation and visibility deemed equally as important as economics.	Extremely low levels of leakage and a rapid response to any waste reported. Greater weighting on public reputation and visibility rather than on economics. Frontier position.
Long-term financeability	A financeable business understanding robust stress tests	Limited awareness of key financial credit metrics across the business. No stress testing carried out.	Limited awareness of key financial credit metrics across the business. Stress testing carried out on actual structure.	High levels of awareness and understanding of how key credit metrics work. Stress testing carried out on both notional and actual structures. All key metrics above known trigger points – for both actual and notional structure.	High levels of awareness and understanding of how key credit metrics work. Stress testing carried out on both notional and actual structures. All key metrics above known trigger points – for both actual and notional structure. Future investment periods thoroughly tested.

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Anticipate future evolution	Advanced knowledge of potential regulation changes	Limited view of impending environmental regulation changes and potential future reforms. Limited transactional involvement with the Environment Agency. Very reactive to impositions, not proactively shaping regulatory bodies to achieve balanced outcomes.	Reactive, short-term view of regulatory reforms. Relative transactional involvement with the regulator, no ability to influence the Environment Agency.	More proactive, longer-term view of impending regulatory change. Reasonable relationship with the Environment Agency, but a limited influence on the regulator. Some response plans in place. Proactively engaged in all consultations.	Well-established relationship with the Environment Agency at a strategic and tactical level, and proactive long-term thinking. Relationship with the regulator at national and local level, with the ability to influence direction. Clear road map of impending regulatory reforms. Well-developed response plan. Proactively engaged, and shaping reform and strategy.
	Proactive sector shaper	No consideration of impacts of a changing market place. Minimal foresight and little thought about new challenges or future reforms. Limited, short-term relationship with regulator.	Impacts of a changing market are considered. Some consideration of new challenges and future reforms. Responsible relationship with Ofwat, but a limited ability to influence the regulator.	Reasonably good foresight into potential future challenges and reforms. Some plans in place, with basic business models to deploy. Reasonable relationship with Ofwat, but a limited ability to influence the regulator.	Good understanding of the effects and influence of a changing market place with an understanding of timescale and company impact. Well-established relationship with Ofwat, and ability to influence at a strategic and tactical level. Proactive long-term thinking. Well-informed views of possible new challenges and future reforms. Well thought through business models, good insight and

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					foresight with systems ready to deploy when situations change.
Health, safety and security	A mature approach to security	An immature safety management system is in place. No visible leadership – no policies or vision documented. Safety matters only communicated at an incident. No awareness or processes documented for cyber security – with little understanding of the risks.	An integrated management system is in place. Clearly articulated vision and policies. Communication typically delivered as 'one to many'. Relative awareness of cyber, with awareness briefings delivered to all our people.	An integrated management system is in place – with managers taking action when poor practices are bought to their attention. Everyone understands the vision and policies. Communication is a two-way interactive discussion, with our people having the opportunity to test understanding. Beginning to implement these layers into a cyber-security approach. Good understanding of the risks of potential cyber-attacks.	Everyone taking a proactive approach to support the health and safety culture. Everyone believes and is committed to the vision and policies. Commitment to health and safety, its strategic importance and the drive for continuous improvement are recurring themes integrated into all communication. Good knowledge, maturity and implementation of the five key layers of cyber security – identify, protect, detect , respond and recover.
	Safe working environment and culture	Basic compliance with health and safety legislation.	Protective equipment and clothing is provided. More advanced health and safety plan for all company sites. Better training and communication to ensure our people are informed. Risks are explained to our people and a competent person	Clear health and safety plan covering our people and the public for all company sites. All workplace incidents and near misses are reported and recorded. All our people are given appropriate health and safety training necessary to their job.	Best practice health and safety procedures adopted; focus from the top to the bottom of the organisation on creating and maintaining a positive culture and behaviours with respect to health, safety and wellbeing. Regular safety audits and inspections from which actions

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			identified who is responsible for each risk.	Noticeable decrease in the number of RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013) reportable incidents. Our people have access to occupational health advisors, and advice and counselling. There is a focus developing on public health and wellbeing. There is a focus on 'safety first', with regular presentations and refreshers.	are monitored, tracked and closed out. Regular staff surveys to monitor, track and action staff culture and behaviours. Zero RIDDOR incidents. Fully compliant with best practice across the sector. Risk elicitation. Good level of self-assurance. Culture. Sector-leading health and wellbeing of our people, contractors and customers Accident Injury rate compared in and out of sector. Knowledge share.