

A1

Bristol Water For All

Our plan to deliver
excellent water
experiences

BRISTOL
WATER



Bristol Water Performance Targets 2025

Raw Water Quality of Sources (kg of Phosphorus loss reduction)
2025 target: 531

Abstraction Incentive Mechanism (ML reduced abstraction)
2025 target: 2843.4

Void properties
2025 target: 1.8%

Per Capita Consumption (annual) (litres/head/day)
2025 target: 135

Developer services measure of experience (D-Mex)
2025 target: measure TBC by Ofwat

Waste disposal compliance
2025 target: 100%

Meter penetration
2025 target: 75%

Water industry national environment programme (WINEP) compliance
2025 target: 100%

Biodiversity index (score)
2025 target: 17711

Percentage of satisfied vulnerable customers
2025 target: 85%

Mains bursts
2025 target: 133 per 1,000km

Properties at risk of receiving low pressure
2025 target: 60 properties

Population at risk from asset failure
2025 target: 290,000 people

Turbidity performance (no. of failures) at treatment works
2025 target: 0

Customer measure of experience (C-Mex)
2025 target: measure TBC by Ofwat

Water quality compliance (risk index)
2025 target: 0 (fully compliant)

Leakage (annual) (MI/d)
2025 target: 36.5

Supply interruptions (Minutes/property/year)
2025 target: 01:48

Unplanned maintenance (no. of jobs) – non-infrastructure
2025 target: 3272

Value for money
2025 target: 83%

Unplanned Outage
2025 target: 1.74%

Local community satisfaction (stakeholders)
2025 target: 85%

Customer contacts (per 1,000) about water quality – appearance
2025 target: 0.43

Risk of severe restrictions in a drought (% customers)
2025 target: 0%

Percentage of customers in water poverty
2025 target: 0%

Customer contacts (per 1,000) about water quality – taste and smell
2025 target: 0.25

Average household bill in 2025:
£172 (in 2017/18 prices)

1. Introduction to our plan

This plan sets out proposals from Bristol Water for customers, stakeholders and for Ofwat. It includes our proposals for price controls for 2020-25, set in a longer-term context for the future of water services for all the communities we serve.

At the heart of our plan are excellent experiences in everything that we do, whether for customers in the services they receive, or for the wider benefits for society and the environment. The plan reflects a stage on our journey, informed by regular and far-reaching engagement with our customers and stakeholders. Most of all, it builds on our position as the most trusted utility, and top performing water company for overall customer satisfaction according to the UK Customer Satisfaction Index.

This process has been led by the Bristol Water Board. It has gathered evidence and analysis to enable it to make informed decisions to develop the best plan for our customers - a plan which delivers the things that matter most to our customers. Building on the extensive feedback on our draft business plan, we have balanced the difficult trade-offs on risk and return, service improvements and bill levels to protect the long-term interests of our customers. The plan we present delivers affordable bills for all customers, with significant and challenging service improvements.

The plan continues a journey of transformation for Bristol Water. The last plan in 2014 saw many areas where our plan appeared not to be in line with Ofwat's expectations, with a re-determination sought from the Competition & Markets Authority. Since then, the shareholders, Board and Executive of Bristol Water have changed considerably. Significant improvements in efficiency have been achieved.

This plan is very different from that prepared in 2014 in how it has been developed, what is proposed and how it will be delivered. It is grounded in what has been achieved since 2015. This provides confidence that it can be delivered. This plan is resilient, as it recognises our stage of transition for Bristol Water, and in doing so protects the interests of our customers.

Through our consultation with customers, we have been given a clear mandate. We have responded by making a series of promises to our customers on what we will deliver to meet their priorities. In doing so, we continue our journey to be a company that our communities trust and are proud of. In doing so, we will deliver excellent experiences and create social and economic value. It has been based on direct participation, both on our long-term ambitions and the extensive consultation on our draft business plan in March 2018.

OUR PROMISES TO MEET OUR CUSTOMERS' PRIORITIES

We will give you a bill which you can afford

Our plan sees average bills reduce by 4.5% and, at least until 2025, stay below the level they were in 2015. Our social tariffs eliminate water poverty today and all customers at risk will get the support they need.

You get the best possible experience every time you need us

We are already the top water company, and we aim to become the top performing utility as measured by the UK Customer Satisfaction Index.

Saving water before developing new supplies

We will reduce leakage by 15% and help customers to reduce water consumption by 5%.

Trust beyond water – helping you to improve your communities and the local environment

We work in partnership with the local community to benefit customers and the environment. If we don't deliver to the satisfaction of the community and customers, our innovative "*Bristol Water for All*" approach will hold us to account.

Keeping top quality water flowing to your tap

We achieve this already, often even during extreme events. Our plan increases protection further to over 540,000 people through being able to supply their water from multiple routes, and to reduce all supply interruptions by 85%, the forecast industry top quartile.

Structure of our Business Plan Submission

Appointee plan

A1
Bristol Water For All



A2
Customer summary

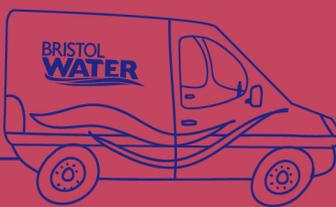


Wholesale controls

B1
Water resources



B2
Water network plus



B3
Residential retail



Supporting evidence

C1
Engagement, communication and research
—
Engagement Summary

C2
Addressing affordability and vulnerability

C3
Delivering outcomes for customers

C4
Bristol Water... Clearly Resilient

C5
Cost and efficiency
—
Investment cases

C6
Financeability, risk & return, and affordability

C7
Track record of delivery

C8
Securing trust, confidence and assurance

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Customer priorities and promises at the heart of our plan



2. Executive summary

Overview

In developing our plan we wanted to start and finish with our customers' priorities in mind, putting our customers at the heart of our plans for the future of their local water company. As we present the plan now, we are confident that we have achieved what we set out to do.

We engaged with our customers and stakeholders extensively to understand their priorities. We developed our plans to meet their needs across the short, medium and long-term. We continuously tested the acceptability of our plan outcomes with them. They consistently told us that their priority is for a safe and reliable water supply at an affordable price. The majority of them also expect us to play a role in society, beyond this essential service; to be using resources efficiently, looking after the environment and making wider positive contributions to their local communities.

We have a mandate from our customers to set ourselves ambitious targets, delivering the service improvements they value, at the same time as reducing their bills. By 2025 we will reduce leakage from our network by a further 15%, reduce interruptions to supply by 85%¹ and improve resilience of water supplies for over 45% of our communities, at the same time as reducing average bills by 4.5%. Bills will remain below the levels seen

¹ Our forecast of the industry upper quartile in 2025

in 2015, even after inflation. Our plan will also eliminate water poverty and will support all customers who may be at risk of it. This combination of service improvements and bill reduction has the support of 93% of our customers and stakeholders. In order to balance the right level of ambition for our customers at lower bills, we have had to make hard choices and trade-offs in our plan.

Delivering the plan will be challenging. Our past performance tells us that our capabilities need to improve quickly to provide confidence to all of our stakeholders on delivery in the short and long-term. We are therefore building on the significant improvements we have made to efficiency since 2015, through a wide ranging Transformation Programme. This involves improving our operational performance, our asset management capability, use of technology, and the way we collaborate with our supply chain and other partners. We are confident that this transformation will deliver our promises to our customers.

Trust beyond water

Bristol Water has been providing clean and reliable water for the wellbeing of society in the City of Bristol and surrounding communities for 172 years. Our entrepreneurial founders had a ground-breaking and ambitious aim; it was, as it is now, to bring fresh, clean drinking water for the benefit and wellbeing of all communities and not just for the wealthy few. Today, we continue to make an

important contribution to our vibrant local communities.

Our vision for the future is: *'Trust beyond water – providing excellent customer experiences.'*

Our contribution goes beyond providing an essential service; as a small local water company, we act as a privately owned, socially responsible local enterprise. Our customers trust us because we are an active and visible part of our local communities. This trust is clearly demonstrated by our position as the top performing water company for customer satisfaction, as well as the most trusted utility company, as measured by the widely respected UK Customer Satisfaction Index (UKCSI).

Our Mission is: *'To be a company which our communities trust and are proud of. In doing so, we will deliver excellent experiences and create social and economic value.'*

A plan driven by, and acceptable to, our customers

We have undertaken our largest ever programme of customer engagement and set a new standard with over 37,000 customers giving us their views through 50 separate studies and research events². This has enabled them to participate in the decisions we have made about the future of their water services and has directly informed our plan. We have consulted on our Water Resources Management

² The video accompanying our plan illustrates the quality of discussion and participation

Plan, our long-term ambitions, and our plan at both draft and final stages. The final plan presented here has the support of 93% of our customers. The Bristol Water Challenge Panel (our CCG) was instrumental in ensuring the quality of our engagement, providing additional challenge and oversight.

What our customers have told us

They need a bill that they can afford – Our customers want us to reduce their bills and make them affordable, at the same time as improving our services. They support a plan that reduces bills by 4.5% and provides support to all eligible customers so that no customers remain in water poverty.

They value improvements in the quality and reliability of their water – Our customers want us to reduce the number of times they have to contact us about the taste and appearance of water at their tap. They want our network to be more resilient to failures. When things go wrong, they want rapid and personal response from us to reduce the duration and frequency of interruptions to their supplies.

They want their water company to make a positive contribution locally – Our customers want us to go beyond clean and reliable water supplies, and make a positive impact on their environment and their lives. They want us to increase access to our leisure facilities, and lead projects which are beneficial to local communities. We go beyond the minimum quality expectations of our regulators.

We should save water before developing new supplies – Our customers want us to tackle leakage, and help reduce water wastage. They have chosen a plan which meets the long-term population increase demand for water, primarily through demand management; a 15% reduction in leakage, and a 5% reduction in water use per population. They support further reductions in the long-term, as long as their bills are reduced.

They expect the best possible experience when they interact with us – Our customers have chosen a plan which gives all of them, whatever their circumstances, the best experience provided by any utility company when they contact us. They also want inclusive services that meet their individual needs.

An ambitious plan for delivering our customers' priorities

We are ambitious to deliver industry upper quartile, or better, levels of service where mandated by customers. In some cases, for example leakage and customer satisfaction, we aim to push the frontier of the industry forward.

There is a clear line of sight between our customers' priorities and the outcomes of our plan, as described below together with actions for delivering them.

Outcome 1: Excellent Customer Experiences

Building on our successful partnership with Wessex Water through our joint venture "Pelican", we will maintain high service standards and a low retail cost to serve. We will bring back in-house the control of operations which connect with our customers, we will improve responsiveness and reduce costs in our wholesale business. Our plan also responds to the needs of our business customers and their retailers, as well as developers, by making the improvements they have told us they would like to see. These changes are underpinned by system improvements which provide a 'single view' of our customers.

We plan to expand the reach of existing care for vulnerable customers by trebling the number of customers on our Priority Services Register. We will offer social tariffs to all those eligible (potentially an additional 12,000 customers) to eliminate water poverty.

Outcome 2: Local Community and Environmental Resilience

We will reduce leakage by 15% through improving leakage detection and repair activities, and use new technologies for leak detection. Reductions in demand will be achieved by increasing the number of metered properties from 66% to 75% of our customers.

We will also build further operational resilience by looking to the market and our community partners to help our customers reduce water wastage in their

own properties. We will drive water efficiency and behaviour change by working with other local energy and service providers in the “Resource West” partnership initiative. This regional collaboration will provide our customers with integrated information on how to reduce water, energy and household costs.

These reductions in demand will more than offset the projections for population growth, with no new water resources required until at least 2045.

Our contribution to society goes beyond providing an essential service. Through our partnerships, we will provide our communities with free public access to drinking water, improved access to our recreational facilities and closer links with local schools and universities. If we don't deliver to the satisfaction of our customers and their communities, our innovative **“Bristol Water for All”** approach will hold us to account.

Outcome 3: Safe and Reliable Supply of Water

Our plan reduces customer contacts about their tap water by 50% and aims to improve on our drinking water Compliance Risk Index which is already one of the lowest in the industry.

We completed one of our largest investment projects in 2017-18 which has made our network resilient to system failures for communities with a population of over 25,000. We will increase the

scope and reach of this resilience further to protect communities of over 10,000 population.

Our plan uses an optimised combination of operational strategies and capital investment to improve the resilience of our supply network by preventative, as well as response and recovery measures. This means we will reduce interruptions to water supplies by 85%.

Outcome 4: Corporate and Financial Resilience

Our corporate and financial resilience underpins the delivery of our other three customer-facing outcomes; together with operational and service resilience, they deliver ‘resilience in the round’. Since the last price review, and the ‘Prescribed’ status of the company under Ofwat’s monitoring framework, we have substantially improved our corporate resilience, now founded on strong governance and assurance, as demonstrated by the comments of our Assurance Partners on the strength of our Assurance Plan.

The customer excellence culture of our employees is vital through their connection with the communities we serve. We care greatly about the wellbeing of our employees, including a zero tolerance for health and safety accidents and injuries at work. Since 2015, our organisation and operations have been overhauled and strengthened by carefully selecting and recruiting more than 25% of our employees in the last three years, in readiness for future changes.

Our financial resilience is founded on transparency and long-term viability. We have carried out extensive risk assessment, scenario planning and stress testing of our financial plan. We demonstrate that we are financially resilient for the long-term to a relevant range of risks. This resilience is founded in our financial prudence, with gearing close to Ofwat’s assumed level.

Our outcome delivery incentives

In the case of over or underperformance against our outcomes, the resulting annual incentive or penalty payments will be between -£4.9m for underperformance and +£2.3m for outperformance. The central estimate of the impact of these payments on our Return on Retained Earnings (RORE) is likely to be in the range of -2.3% to +1.1%. Together with ‘C-MeX’ and ‘D-MeX’, the full possible range for outcome incentives is -£10.8m to +£6.7m each year (all figures 2017-18 CPIH prices).

For financial resilience, and to reflect customer views on incentives and bill volatility, we propose capping the annual reward or penalty at £2.5m (£4 average household bill) in any one year, with the remainder rolling forward to the follow year.

Maintaining bill reductions from 2015 and keeping bills low in the long term

Over the past three years, we have improved our comparative efficiency, in our view to the upper quartile level within the industry for both our wholesale and retail services.

Through our continued transformation we have challenged our current and likely future costs, and have identified £52m of new cost efficiencies by 2025 (around 9%), with c80% delivered from 2020. In combination with other changes to the starting bill level, such as a lower cost of capital, we will be able to deliver service improvements while still reducing average household bills by 4.5% in 2020 and 6% by 2025.

After forecast inflation, bills in 2025 will remain £9 below the level that they were in March 2015. The long-term picture for our bills suggests a small increase in 2025, reflecting the end of adjustments for 2015-20 performance which reduce bills to 2025. Bills thereafter reduce to 2030, as seen in the figure opposite.

We have a significant cost uncertainty relating to the Canal & River Trust (CRT), supplying half of our raw water via the Gloucester & Sharpness Canal. The Trust is proposing a substantial price increase of up to £8m per annum, which in our view is not justified and is not in the long-term interests of our customers or the environment. We have not included any reduction or increases in our plan and intend to resolve the matter through arbitration.

We propose a notified item that shares 75% of any reductions or increases with customers through adjustment to bills. This is the most appropriate mechanism, allowing Ofwat to fully assess our efforts to reach the best outcome for our

customers, while protecting long-term financial and service viability.



Figure 1: Average household bills in 2017-18 prices excluding inflation

Cost of delivering our plan

The total cost of delivering this plan in the period 2020-25 is £503m, 4% below our expenditure over 2015-20. In order to deliver better outcomes at lower cost, we have taken a “Total Expenditure” (Totex) approach to planning our activities, resulting in a shift from capital intensive solutions to operational interventions. Capital expenditure is therefore 15% lower (c£32m) and operating expenditure 4% higher (c£10m) than during 2015-2020 (in 2017-18 CPIH prices).

Our Transformation Programme and other day-to-day initiatives are planned to deliver efficiencies in our wholesale business so that Capital Expenditure (Capex) efficiency will exceed input price increases (such as labour and material costs). We have

included an initial efficiency gain of 8%, and an ongoing 0.9% per annum. Operational Expenditure (Opex) includes an ongoing efficiency of 0.7% per annum, offset by input price increases of 1.8%, reflecting the cost of resources (labour, material, energy, etc.). It also reflects that there are no major one-off capital interventions in our plan where potential for one-off efficiencies are readily available.

We expect residential retail costs to increase by c0.5% per annum, with initial efficiencies of 5.4% targeted at bad debt, and c1.5% per annum ongoing improvements.

A balanced and high quality plan, acceptable to our customers

Building on the extensive views of our customers, the Board has balanced the difficult trade-offs on risk and reward, service improvements and bill levels. The balanced trade-offs form the basis of any well-considered plan and protect the long-term interests of customers.

The customer acceptability for our final plan, at a bill of £175, is 93%. With inflation added, the acceptability is 83%. All proposed service levels were supported. Acceptability ranged from 84% for the most service and price vulnerable customer segment, to 97% for the “mature and measured” segment.

82% of our customers preferred this plan compared to one with a £4 lower bill, lower reductions in

supply interruptions and slower resilience and water efficiency improvements. 80% of customers also preferred a plan with annual adjustments to outcome incentive payments, rather than adjustments after 2020, while avoiding bill volatility.

Our customers support the additional cost of financing (associated with the efficient historical debt of Bristol Water) at up to £3, as a consequence of being supplied by a small local water company providing trusted local services to them. Only 6% would prefer another supplier for a lower bill. Nevertheless, this support is dependent on both our efficient bill proposals and maintaining trust in our delivery. Our plan includes new commitments to hold us to account for this additional cost through **“Bristol Water for All”** - an additional sharing mechanism that puts transparency at the heart of delivering for customers. We will reinvest 50% of our additional cost of debt if we are not one of the top three water companies under UKCSI, or if community stakeholder satisfaction falls.

This package of proposals delivers affordable bills with significant and challenging service improvements. Our plan is realistic and ambitious, it balances key trade-offs between improving services, customer experience and maintaining financial viability while reducing costs.

We are confident that our stretching targets are deliverable and in the long-term interests of our current and future customers. Our plan provides fair returns for shareholders while delivering for our

customers and communities. In addition, we adopt Ofwat’s benefit sharing proposal should gearing increase beyond 70%, existing preference shares from this definition of gearing to maintain financial viability.

These commitments reflect the wide range of customer views about how to use transparency to maintain trust. The commitments are designed to reflect our local community delivery model, innovating for the wellbeing of society by linking customers and stakeholder experiences for the benefit of all. Through **“Bristol Water for All”** we establish a social contract with our customers. We vow to deliver demonstrable community benefit with high levels of customer satisfaction, transparent engagement and financial consequences should we fail to meet expectations.

Bristol Water Board confidence and assurance of our plan

The Board of the company has led the development of this plan and has applied rigorous assurance processes that it has satisfied itself have been followed throughout the plan development. Board decisions have been based on high quality data, developed and checked in line with robust governance and assurance processes which respond to our current ‘prescribed’ assurance status. Third party assurance has been used extensively to augment our own internal review and provide challenge. The plan embeds our corporate governance, and customer trust, as we continue with our transformation. We recognise that Ofwat

will need to carefully consider the support and evidence for the balance of our proposals given the trade-offs the Board have considered.

The Bristol Water Challenge Panel, chaired by Peaches Golding OBE, has continuously provided challenge on the quality of our customer engagement and the extent to which the results have driven the decisions that underpin our plan. The panel provides scrutiny of our performance, and the Board and shareholders have benefitted from its engagement.

Summary from the Bristol Water Challenge Panel’s report on our plan

“In summary, the Challenge Panel considers the evidence that the Bristol Water Business Plan 2020-2025 is grounded in a sound, extensive customer engagement strategy and research; the views, priorities, preferences and valuations of customers are reflected throughout. Performance commitments meet the regulatory and statutory requirements set out by Ofwat and other regulators and the incentives reflect what customers value and prefer.”

3. Key facts and figures

Financial summary

Totex of £503m 2020-2025
 • Below £527m CMA PR14
 • Below £525m 2015-2020
 • £52m of efficiencies

Cost of capital falls by 1.1% to 2.7% (Real RPI)

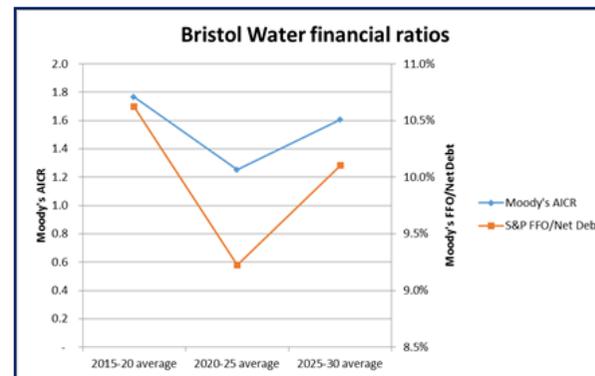
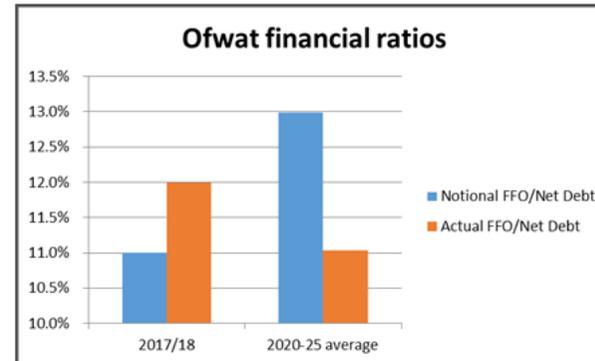
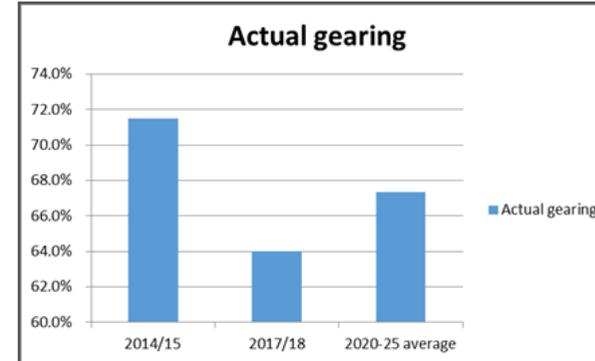
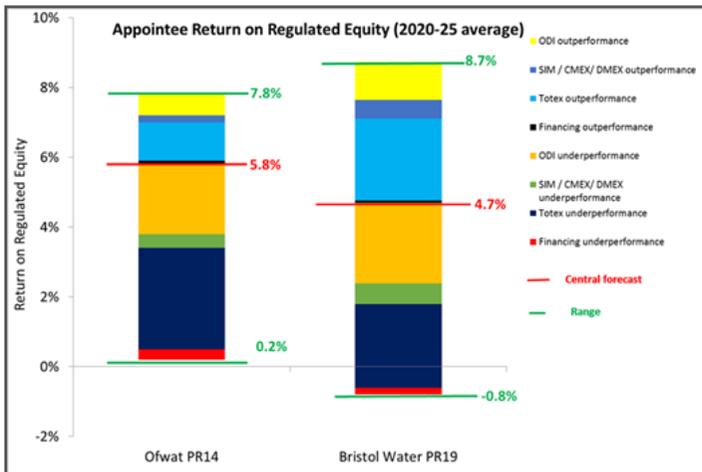
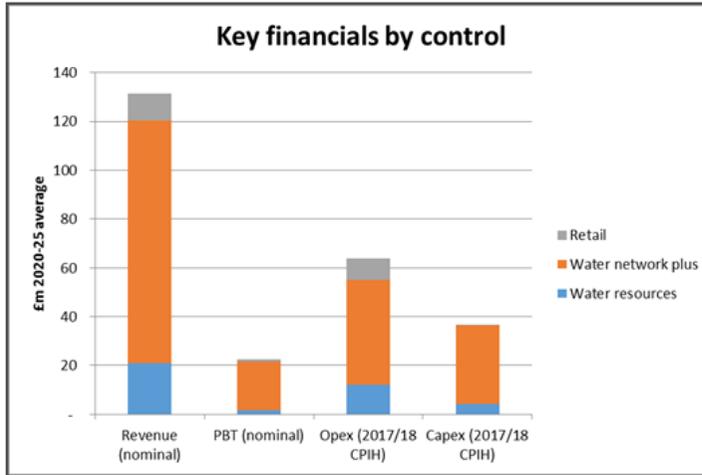
Moody's Baa2 – our target investment grade credit rating

Outcome delivery underperformance -2.3% RORE

Outcome delivery outperformance +1.1% RORE

RCV – 1% reduction 2020-2025 before CPIH inflation

Dividend yield of 3.2% and 1.3% p.a. real growth – average £6.4m p.a.



2025 bills £9 below 2015 levels despite 10 years inflation

Supply interruptions reduced 85% (industry forecast top quartile of 1.8 mins per property)

15% reduction in leakage to 66 litres/property/day

5% reduction in per capita consumption to 135 litres/person/day

Residential meter penetration increases from 65.9% to 75%

- Aim to be top water company and top utility on UKCSI survey
- Maintain being most trusted utility
- 85% vulnerable customer satisfaction
- 85% community stakeholder satisfaction

High level summary of our plans by outcome

Outcome	Customer priority	Customer promise	Summary of our plans for 2020-25
 Excellent Customer Experiences	You give me a bill that I can afford	<ol style="list-style-type: none"> Lower bills for customers - affordable for all Achieving customer excellence 	<ul style="list-style-type: none"> Support all eligible customers through social tariffs Absorb cost of performance improvements through efficiencies, reducing bills by 6% by 2025 before inflation Transform our services, to keep pace with customer expectations, aiming to become the number one utility for customer satisfaction as measured by the UK Customer Satisfaction Index (UKCSI).
	You get the best possible experience every time you need us	<ol style="list-style-type: none"> Inclusive services that meets customers' individual needs, especially when they are most vulnerable. Aiming for zero water poverty 	<ul style="list-style-type: none"> Provide customers with more choice on the way that they interact with us and the services that they receive Continue to be one of the leading performers in providing excellent services to retailers, and to improve our developer service response to the same level Treble the number of customers who receive extra care services through our Priority Services Register and further improve our services
 Local Community and Environmental Resilience	Saving water before developing new supplies	<ol style="list-style-type: none"> 15% leakage reduction Metering and water efficiency promotion and support 	<ul style="list-style-type: none"> Reduce leakage by 15%, on top of the 12% delivered since 2015. Support customers to reduce average water use by 5% (7 litres per person per day) through water efficiency support and advice and by installing an additional 40,000 meters.
	Trust beyond water – helping you to improve your communities and the local environment	<ol style="list-style-type: none"> Accountable to the community partners we work with for the wellbeing of society – “Bristol Water for All” Building biodiversity and protecting our environment 	<ul style="list-style-type: none"> Improve habitat around rivers and reservoirs, equivalent to 5 hectares of high quality new habitat Catchment management partnerships to retain 531 kg of phosphorus which would otherwise impact rivers and reservoirs and increase treatment costs A programme of activities which benefit our communities, agreed and overseen by our stakeholders including improved recreation access at our sites, expanding public access to free drinking water, reducing traffic congestion, working with Resource West on resource efficiency messages Linking our community contributions and customer satisfaction to reinvestment through “Bristol Water for All”

Outcome	Customer priority	Customer promise	Summary of our plans for 2020-25
 <p>Safe and Reliable Supply of Water</p>	<p>Keeping top quality water flowing to your tap</p>	<p>8. Improving water quality (including contacts for discolouration and taste)</p> <p>9. Reducing supply interruptions</p> <p>10. Resilience – boosting protection for population centres of more than 10,000</p>	<ul style="list-style-type: none"> • Continued compliance with water quality standards • 54% reduction in discoloured water and 43% improvement in tap water taste • Replacement of all lead communication pipes (i.e. the lead pipes in our ownership) that supply pre-schools and nurseries within our area by 2025 • Achieving industry top quartile in supply interruptions, a forecast 85% reduction to 1.8 minutes per property each year • Extending coverage of our operational resilience scheme to an additional 540,000 customers, to protect from the risk of a severe interruption to supply lasting more than 24 hours. • Expanding the scope of our resilience investment to protect against a wider range of operational risks
 <p>Corporate and Financial Resilience</p>	<p>Supports the achievement of all customer priorities</p>	<p>Supports the achievement of all customer promises</p>	<ul style="list-style-type: none"> • Cut customer bills in real terms and to retain them below the level they were in 2015, with a 4.5% reduction in the average household bill in 2020, before CPIH inflation. • Maintain industry upper quartile or better efficiency position through £52m of efficiency savings • Reduce void rate to 1.8% (c1,000 fewer household voids) • Reduce level of bad debt by £0.5m per annum (from 3.45% to 2.93% of revenue), reducing customer bills by c£1 • Fair and transparent remuneration and dividend policies • Sharing scheme linked to delivery of community benefits and customer satisfaction • Zero tolerance for health and safety failures • Resourcing and development strategies to ensure that staff capabilities match our changing needs.

4. Our journey

This plan continues a journey of transformation for Bristol Water

A local company

Over our long history, we have retained the trust of our customers by remaining true to our original roots; to break new ground, to be ambitious and to serve the needs of all of society rather than those of the wealthy few. We have responded to the expectations of our customers and to the changing needs of society and the environment, innovating to deliver resilient services, both now and for future generations.

Our history

Unlike other cities in the UK, the rapid growth of the city of Bristol and the surrounding areas was not linked to the industrial revolution but rather to the location of its ports. The rapid expansion of the city in the 19th century led to public health issues such as cholera, dysentery and water borne diseases resulting from the lack of clean water.

In 1840 the government commission recorded: "There are few large towns in England in which the supply of water is as inadequate as at Bristol". The following year the Society of Merchant Venturers, a collection of prominent Bristol businessmen, established the *Merchant Venturers Water Works*. With Isambard Kingdom Brunel as a

backer, the group sought to supply water to Clifton and the wealthier parts of Bristol.

In 1845 a rival group formed. They were concerned that these plans were too restrictive and would not provide for the poorer and more densely-populated areas of Bristol. The government weighed up the plans of the two groups and narrowly came down on the side of the new group. On the 16 July 1846 the Bristol Waterworks Company was established by an Act of Parliament.

Much has changed since 1846 but, since that time, Bristol Water has formed an enduring part of the fabric of Bristol and has grown along with the city and the surrounding areas, providing excellent quality water with some of the lowest levels of leakage in the country.

We have increased the size of our water network significantly from the original 16km of water main laid in 1846. Today we use 6,800km of pipe to transport water from our 68 sources (including 14 supply reservoirs) to our 16 treatment works and then to our customers' taps.

More recently, change has been necessary as a result of the outcome of our 2014 business plan and the final decision made by the Competition & Markets Authority. Our 2014 business plan submission was heavily challenged by Ofwat. We have taken these challenges on board, and in doing so had to take significant steps to improve our efficiency and performance, which has not

been easy. Significant change has been achieved without losing the customer culture and community values that are embedded within the people who work at Bristol Water.

Through new investors, who have brought wide expertise and a long-term focus, our financial resilience has improved through reduced gearing.

The change in direction of the company has also seen significant changes to our Board, and most of our leadership team has changed too.

Since our last business plan submission in 2014 we have:

- Taken major steps to become more efficient through innovation and continuous improvement. Household bills are £12 lower today than they were in 2015.
- Made significant reductions to leakage, despite already having one of the lowest leakage rates in the industry - by 2020 we will have cut leakage by 12% in five years.
- Through consultation with customers, revised our long-term water resources management plan. We no longer plan to develop major new resources to balance supply and demand in the foreseeable future.
- Removed 280,000 people from the risk of a major supply event through the on-time and on-budget completion of our Southern Resilience Scheme.

- Expanded our range of social tariffs, increasing uptake to 14,000 customers and eliminating water bill poverty. We partner with debt advice agencies to make sure we meet the needs of customers in vulnerable circumstances and ensure that our services are accessible for these customers.
- Developed our relationships with partners in our local communities and delivered joint projects with wider community benefits, such as Refill and the Water Bar. We have been awarded an international research grant, working in partnership with the University of the West of England, contributing our innovations to the understanding of sustainable water development worldwide.

Our recent journey has been challenging and we now continue the rapid transformation required to address areas of operational performance where we have not yet met our ambitious targets, such as our leakage and metering programmes.

Bristol Water today

Today we are proud to be part of the communities we serve. Bristol was recently voted the best place to live in Britain due to its “ideal combination of extraordinary culture, impressive schools, buzzing culinary scene, exciting redevelopment and community spirit”³ and has also overtaken London

³ The Sunday Times League Table <https://www.bbc.co.uk/news/uk-england-39320118>

as the UK’s leading “smart city”.⁴ We also serve the seaside towns of Clevedon, Weston Super Mare and Burnham on Sea as well as Glastonbury and Frome (recently voted the most stylish place to live in the UK),⁵ as well as all the rural areas in between.

We make an important contribution to these vibrant local communities, not only by providing an essential service, but also through our industry leading innovations such as the Refill App, Water Bar and our water fountains; as well as through our recreational facilities and green spaces and our work with schools such as ‘Spawn to be wild’ and strong links with local universities.

The legitimacy of water companies has recently been called into question, with discussion on the nationalisation of utilities, including water. Bristol Water has always been a privately owned water company and our existence has not been questioned in the same way that it has for larger privatised utilities. We think this is because we are a small, community focussed company with a strong heritage.

⁴According to the second UK Smart Cities Index <https://www.bristolisopen.com/bristol-uks-number-one-smart-city/>

⁵ <https://www.somersetlive.co.uk/news/frome-named-most-stylish-place-1618196>

We are proud to be a local company with close connections to the communities that we serve:

Our staff connect us to the area we serve, which makes us customers too – with 88% of our staff living in the area we serve. We share the challenges and concerns of our local communities and therefore providing excellent service experiences combined with affordable bills is personal to us. Our field staff are out and about in our communities every day and customers rate the level of service they provide as excellent as a whole.

“Extremely courteous employee of Bristol Water, who identified and fixed the problem swiftly. He explained to me in full detail what had happened to cause the leak, and showed me what had broken. Very happy customer!”

Comment from one of our customers via an online survey

Our innovative pop-up ‘Water Bar’ can be found providing free tap water and reusable bottles at local events such as the International Balloon Fiesta, Bristol Pride and the Festival of Nature. As well as reducing plastic use and keeping people hydrated, our bar provides the perfect opportunity for us to engage with our customers. The Water Bar won Community Project of the Year at the 2017 Water Industry Achievement Award as well as Environmental Innovation of the Year at the Bristol Post Environment Awards in 2016. In 2018 the Water Bar was at 18 events.



Figure 2: Water Bar awards

Our Refill stations can be found in businesses throughout Bristol. Working in partnership with City to Sea and local retailers, we introduced this pioneering scheme in 2016. The scheme provides public access to free drinking water and is supported by an app which shares the refill locations while promoting the benefits of reduced plastic bottle use. We also joined forces with Sugar Smart Bristol to promote free tap water over sugary drinks. Our popular metal and wooden “Bristol Water Refill” bottles have become a common sight when out and about in Bristol and surrounding areas. Refill Bristol has been so successful that Water UK has promoted it as a national initiative.



Figure 3: The Water Bar in partnership with Sugar Smart

Our recreational facilities at our 896 hectares of lakeside estate are shared with our community. These provide safe and enjoyable access to the countryside, fishing and sailing facilities and top quality wildlife habitat. We recently launched our campaign to increase awareness of the great facilities on offer.



Figure 4: Our interactive web page to promote our facilities

Our water fountains can be found around Bristol and provide free drinking water to discourage the use of single use plastic bottles.

We support community events such as Blue Monday, an annual event that is hosted by local organisations who are passionate about supporting our community through hard times. It is an opportunity for Bristol residents to find out about the range of free advice and support on offer and have informal chats with a range of experts.

We run **community projects** such as **Spawn to be Wild**, which is our award-winning schools project, delivered in collaboration with Avon Wildlife Trust, the Sustainable Eel Group and Bridgwater & Taunton College. Children from primary schools across our region carefully nurture the elvers over a five week period before releasing them into a carefully chosen river or lake, where they will live until they return to sea to spawn. This project started in 2014 and is now in its fourth successful year.

Partnerships with our stakeholders - The region's strong sense of identity has enabled organisations such as Bristol Water, Bristol Waste, Bristol Energy, the University of the West of England and the West of England Combined Authority to come together in a new partnership known as **Resource West**. The group aims to explore the economic and social benefits of efficient resource use and its role in facilitating regional growth.

Our response when things do go wrong – We take pride in being agile and responsive to the needs of our local communities. For example, when we took the decision to issue precautionary ‘boil water’ notices to our customers in Clevedon earlier this year, around 100 of our office based staff, including our Executive Team took to the streets to deliver the notice to all 7,000 affected properties as well as bottled water to vulnerable customers. Not only did this mean we responded quickly, but with our high visibility clothing we deliberately provided a visible presence within Clevedon to answer any questions that our customers had.

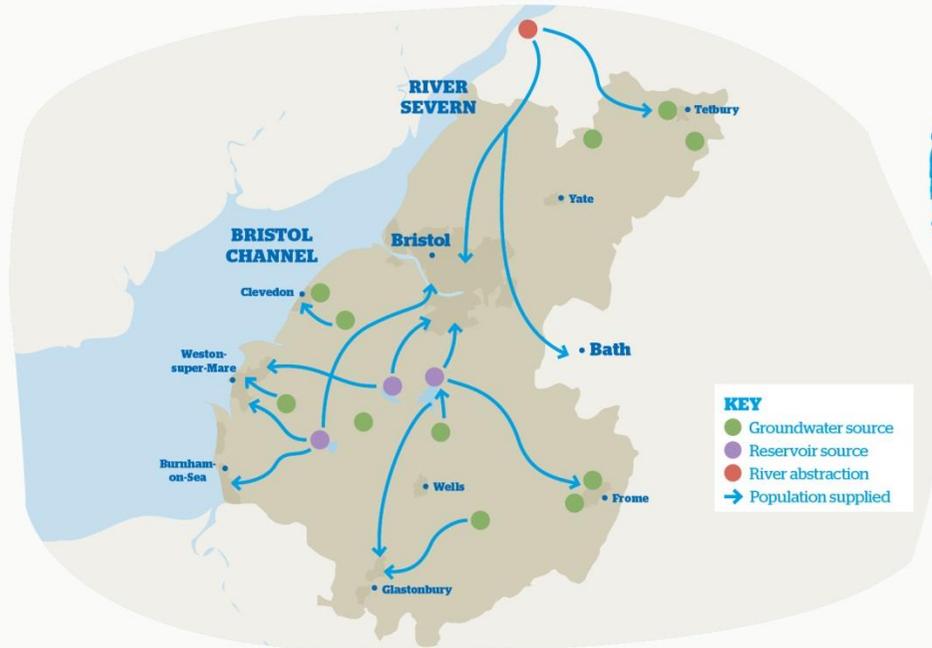
Our community fund ‘Together for Good’ donates £500 every month to a local community project which benefits the local community or environment. This is promoted through our Facebook Group ‘More to Water’.

Our plans for 2020-25 will see us playing an even stronger role within our communities, increasing our contribution to the wellbeing of society and the environment.



Figure 5: The Water Bar at Dogfest

Bristol Water supply area



88%
of Bristol Water staff live in the area which makes us customers too

1846

We have supplied drinking water to our customers for over 170 years. We were formed in 1846 by ambitious entrepreneurs who had a vision of a company which would serve the whole community, rather than the wealthy few.

2,400

We supply customers over an area of 2,400 square km.

1.2m

We serve 1.2 million customers.

34,000

We supply over 34,000 business, who are served by the 18 retailers who currently operate in our area. We have also sought the views of our retailers to inform our plans.

500

We employ 500 people who all really care about what we do. We share the challenges and concerns of our local communities because these are where the majority of us live, which makes us customers as well as employees. Providing great services combined with affordable bills is personal for us.



Awards won for our innovative Bristol Water Bar which tours our area handing out free water refills while raising the profile of water efficiency and plastic pollution.



We are recognised by the UK Customer Service Institute as the most trusted utility company and best water company for customer service.



We collaborate with Wessex Water to provide you with joint bills and consistent messages about your water and sewerage service.



More than 800 acres of lakeside land as well as three large reservoirs, much of which is open for you to enjoy.

Earning the trust of our customers

We take the trust of customers seriously, recognising that this is central to everything that we do.

Our customers trust us because we are an active and visible part of our local communities and because we maintain their confidence in us when things do go wrong. This is demonstrated by our position as the top performing water company for customer satisfaction, as well as the most trusted utility company - as measured by the widely respected UK Customer Satisfaction Index (UKCSI).⁶

The trust of Ofwat and national stakeholders in our data, transparency and response to changes in the sector for a period of time has not been aligned with local views about the company. We have taken significant steps to change our approach. Our transformation to date has seen significant improvements in efficiency, while retaining customer trust and the culture of the people working at Bristol Water, who see themselves as part of the communities they serve.

Transparency about our progress and our response to operational challenges has been part of ensuring that customers are at the heart of the changes we

⁶ We remain the top water company with a score of 79.6 (up from 77.4 in January 2018), above the UK all-sector average of 77.9. We also have the top utility net promoter score and are the most trusted utility in this survey.

are making. The steps necessary for Bristol Water to improve this transparency and trust started after PR14, and before the recent challenges to sector legitimacy. This year specific actions taken have included:

- Publishing a mid-year performance report including comparative information on our performance, recognising the need to improve transparency
- A new Board commitment to calculate leakage incentives without the benefit of technical data changes, and agreeing the approach with both our Challenge Panel and through the formal Ofwat process.
- Setting out a revised long-term ambition for Bristol Water in ***Bristol Water...Clearly***, published in February 2018. This included our “trust beyond water” vision, setting out that in order to provide excellent customer experiences, we had to go beyond supplying water as a product. Our mission is **“A company that our communities trust and are proud of. In doing so, we will deliver excellent experiences and create social and economic value”**.
- The consultation and engagement on our PR19 draft business plan, which developed these themes on the future challenges for the business and society into specific proposals and choices. The scale of discussion and

consultation, and over 4,000 responses on this stage alone, is central to our approach.

- Promoting the value of our water to society in a way that relates to wider resource efficiency messages such as reducing plastic.

We have had a number of operational challenges this year and have improved our response to incidents as a result. We were pleased this was recognised in Ofwat’s review of the freeze-thaw event, and agree that while we performed well in this incident there remains more to do. Measures indicate that we appear to have maintained customer trust recently, illustrated by the July 2018 UKCSI rankings.

The specific challenges from Ofwat to several companies to put the sector back into balance have limited applicability to Bristol Water, and we aim to ensure this remains the case by our actions. We made positive suggestions for the PR19 “sector balance” consultation and our Board has taken the outcome into account for final plan decisions. We also take corporate governance and resilience seriously, and support industry licence changes, such as in the recent “change of control” and Board leadership, transparency and governance principles consultations.

We have more to do, and our priorities are to address issues that are specific to Bristol Water rather than directly arising from the recent challenges to water sector legitimacy. Recent transformation at Bristol Water has been driven by

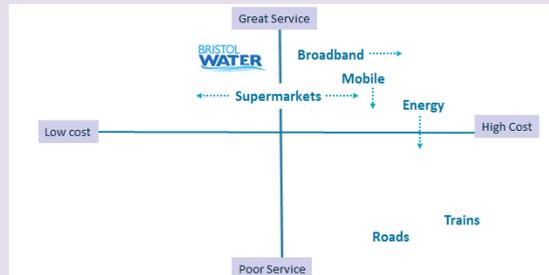
changes necessary to put customers at the heart of our vision, supported by both new shareholders and a very different Board and governance structure.

Improving our “prescribed” company monitoring framework status is viewed by the Board and management as critical to delivering our future ambitions and we are striving to address these to elevate our position in the sector. We have kept Ofwat informed of changes in our Board and delivery as we continue to transform to meet these challenges - we may have good evidence that customers trust us now, but we do not take this for granted.

We continue to promote the diversity of the sector, and the benefits this has to customers as not all companies are the same, including the benefits to sector regulation. Our CEO, Mel Karam was invited to provide evidence to an EFRA select committee inquiry, making many of the points highlighted above, as well as repeating our support and understanding of the need for the actions set out in the letter from Jonson Cox to Michael Gove and Rachel Fletcher’s letter to CEOs, as well as developing markets and customer choice to transform the sector. This reflects our ambition to have a wider influence on the communities we serve, and on the water sector, built on trust that we act for the good of society and the environment.

Customer research case study: exploring customer trust and the perceived value in Bristol Water

We undertook some deliberative research through four focus groups to explore the topic of trust in Bristol Water and performance in the context of the wider water industry.



We found that customers generally thought that we provided a great service at a low cost, giving scores of mostly 9-10 for overall performance, compared to 6-8 for mobile and broadband, and 4-8 for energy providers.

Views were largely formed by the fact that customers had limited negative experiences, either personally or via the media, rather than specific examples of great service and so customers usually claimed to trust us on the basis that they had no reason not to do so. Some knew of our community work, and the few who experienced problems with the supply were delighted with the response.

“ They’ve just always been there supplying our water ”
Bristol 45+C2DE

“ I think they gave out free water at Balloon festival. You could go and refill your water bottle... ”
Bristol 18-44 ABC1

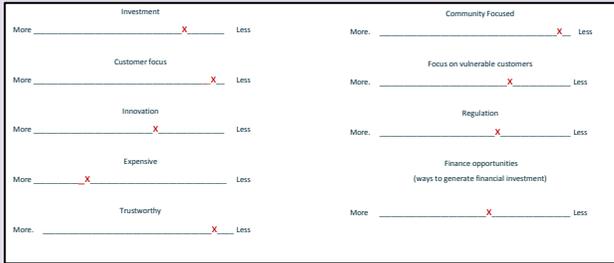
Exploring our customers’ views on the nationalisation of the water industry

Discussions with four focus groups revealed that customers are largely opposed to the nationalisation of the water industry

- Money would be used to bail out failing companies in other regions
- Local Bristol focus would be lost
- Government would not have the money to fund the service properly
- Standards would go down overall to a lower average
- Bristol Water’s quality/service would reduce and costs would rise
- No reward/incentive for better management

Customers feared that a nationalised water industry would result in a lack of investment and reduced customer focus.

Summary of responses on impact of nationalisation

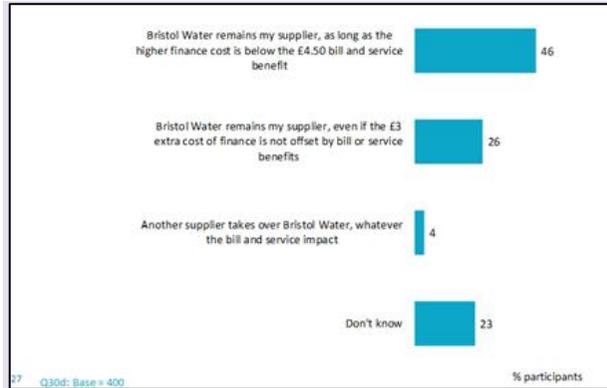


Customers preferred the idea of keeping Bristol Water as an independent small company, with no interest in a potential slight cost reduction linked to the borrowing power of larger companies.

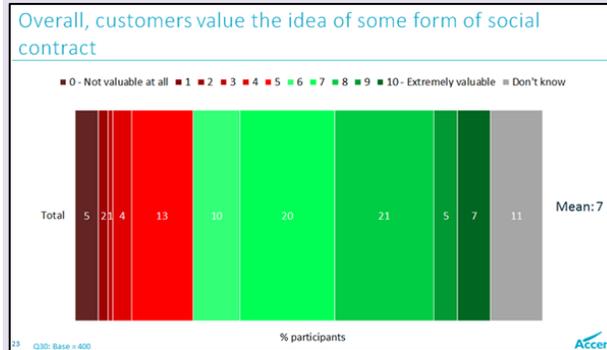
A survey of 400 customers with a segmented sample also found that the majority of our customers are against nationalisation and would prefer Bristol Water to remain private.



The research found that the vast majority customers are willing to pay more to retain Bristol Water as their supplier.



Overall customers valued the idea of some form of social contract between Bristol Water and its customers.



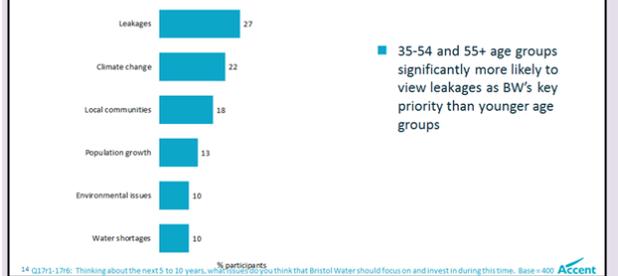
Customers generally preferred a contract based on a commitment to future improvements and community investment.

Sharing Mechanism less appealing than commitment to future improvements and community investment

- Customers happy for shareholder dividends to reflect operational efficiency and VFM
- Principle of small refund if planned improvements are not met feels unwieldy
 - Preference for clear communication on underperformance
 - And reinvestment with new commitments
 - Sharing of financial success as small bill decrease generally considered unnecessary
 - No voiced resentment of shareholder dividends
 - Commitment to successful outcomes preferable to small bill reduction
 - Some feel 'refund' is fair, others prefer reinvestment
 - The concept of a social contract to benefit the community appeals overall
 - Some expectations that executive pay and dividends would reflect this
- 20 Accent

When the same group of customers were asked about priority areas for investment, leakage was seen to be most important, followed by investment to respond to climate change and the investment in local communities.

Leakages are considered Bristol Water's key priority to focus on and invest in over the next 5-10 years



For more information see file B32 in the Appendix to C1: Customer engagement and research.

Our investors

The support of our investors has been critical to our transformation.

We are financed by a combination of equity (35%) and debt (65%, including c2.5% preference shares). This balance seeks to ensure that we have both the funds available to finance our business efficiently and that the business is financially resilient to developments in our market place.

Our debt is provided by a combination of major UK banks, including HSBC, Lloyds and Santander, as well as major institutional investors in the UK, such as SunLife, Aberdeen Standard Investments, Legal & General and Prudential, via long-term bonds.

We employ a prudent mixture of debt, with a majority being long-term to achieve a good match with the nature of our assets, and to ensure that we are able to manage refinancing risks, which is particularly important for a local water company of our size.

Equity is provided by a combination of preferred equity, which is listed on the London Stock Exchange, and ordinary equity. Our ordinary equity is 80% owned by infrastructure funds advised by iCON Infrastructure and 20% owned by ITOCHU Corporation.

In late 2016, iCON Infrastructure replaced Capstone Infrastructure Corporation and Suez

Environnement Company, previously our main shareholders.

iCON Infrastructure's investment is on behalf of approximately three dozen long-term investors from the UK and overseas, of which the overwhelming majority are private and public pension funds. The ultimate investors include institutions such as East Riding Pension Fund, Local Pension Partnerships and Canada Post Pension Plan. iCON Infrastructure is a responsible owner of local infrastructure businesses such as Bristol Water, with a long history of involvement in the UK water sector as well as an excellent track record of investing in businesses providing key infrastructure services. Other relevant examples include Firmus Energy, Mountaineer Gas, Stockholm Gas and Oslofjord Varme.

ITOCHU Corporation is a global, diversified trading company founded in 1858 and based in Japan, where it is listed on the Tokyo stock exchange. It is involved in trading of various products such as textile, machinery, metals, minerals, energy, chemicals, food, general products, real estate, information and communications technology, and finance, as well as business investment in Japan and overseas. It is active in the water and environment business where it has numerous investments internationally. Itochu shareholding in Bristol Water Group is owned through I-Environment Investments Limited, its subsidiary in the UK.

The support of our investors has been critical to our transformation, with the long-term focus of our shareholders aligned to the ambitions of the company. Our shareholders also bring wider expertise from other utilities and infrastructure firms where they manage investments in. They have a focus on sustainable investments and help the organisations they are involved with to innovate. For instance, we recently participated in a meeting of iCON's global health and safety leaders to share best practice. We have also used their expertise to explore the potential for innovative electricity generation at our sites. .

Our investors suspended dividends from the Bristol Water Group, retaining resources in the business to fund its transition while costs are cut and services improved, as well as increase financial resilience through lower debt levels. They play an active role as part of the Board in helping to set the long term strategy.

In our research, customers understood the Bristol Water Group structure when it was presented to them and they were aware of the joint billing with Wessex Water (through Bristol Wessex Billing Services Limited – also known as Pelican). As shown in the case study above, our financing arrangements have helped maintained their trust in us. We have recently renamed our holding company "Bristol Water Group" so the distinction is even clearer.

A diagram of our corporate structure can be found in Chapter13.

Our performance in 2015-20

We set ourselves challenging targets. This is the case for both 2015-20 and this plan. Sometimes we will not meet our targets. This will not be through a lack of effort on our part. We will seek to learn from where we have failed, and improve.

We recognise that customers have to trust the way regulated companies report on their performance. We want to be a positive example at a time when the sector is under scrutiny. Therefore, given that leakage is one of our customers’ top priorities and of increasing focus for the industry, in February 2018 we committed that our outcome incentives for 2015-20 would be calculated without taking into account technical adjustments that could benefit the incentive calculation. We separately report our actual level of leakage based on up-to-date assumptions.

We increased leakage resources over 2017, but despite this did not meet our target, with the severe weather in March 2018 playing an important role. By increasing resources now, we are confident that we will meet our actual level of leakage target for 2018-2020 and reduce leakage further by 15% by 2025.

The key reasons why some of our performance commitments have not been met are set out in full, in our 2017-18 annual report. In summary they are:

- Supply interruptions (unplanned customer minutes lost) – we have had exceptional one-off incidents in 2015-16 and 2017-18, but we would have met our target without these events. Our post event reviews have shown that there was not an underlying asset health cause for these incidents. Our resilience investment will reduce risk to customers further over 2015-20.
- The freeze-thaw in March 2018 meant we missed our asset health infrastructure target because of mains bursts. This then also fails 2018-19 performance automatically.
- Mean Zonal Compliance is a water quality metric and we failed this target due to nickel in customer tap fittings, which is largely out of our control. The new Compliance Risk Index target for 2017-18 was at the industry frontier at 0.032. Our underlying performance on water quality is strong
- We have seen slower uptake of meters by customers. We have increased promotion of meters and resources to meet our 65.9% target in 2020.
- Customer service targets have also sometimes not been met due to the operational incidents, particularly as complaints increase.

We have outperformed on wholesale totex and sold surplus land, which both reduce bills through a 50% sharing rate. The adjustments for 2015-20

performance are shown in Table 1, split between revenue and Regulatory Capital Value (RCV).

£m (17-18 CPIH prices)	Revenue	RCV
ODIs	-9.5	-0.8
Wholesale totex	-2.3	-6.1
Wholesale revenue	+2.5	-
Residential retail revenues	+0.3	-
Land sales (50% share)	-	-2.0
Total	-9.0	-8.9

Table 1: Adjustments for 2015-20 performance for revenue and RCV

In the figure below, we summarise our actual and forecast performance for 2015-2020. Performance commitments that were not met are shown in amber and those where ODI penalties are incurred are shown in red.

Performance Commitments	Unit	2015/16 Actual	2016/17 Actual	2017/18 Actual	2018/19 Forecast	2019/20 Forecast	AMP 6 Forecast Rewards/Penalties £m (12/13 prices)
Unplanned customer minutes lost	Minutes/ prop/ year	15.49	13.12	73.7	12.5	12.2	-£1.5m
Asset reliability - infrastructure	Improving, Stable, Marginal, Deteriorating	Stable	Stable	Marginal	Marginal	Stable	-£0.7m (RCV)
Asset reliability - non-infrastructure	Improving, Stable, Marginal, Deteriorating	Stable	Stable	Stable	Stable	Stable	nil
Population in centres >25,000 at risk from asset failure	Population	288,589	288,589	9,063	9,063	9,063	nil
Security of Supply Index (SOSI)	Score/100	100	100	100	100	100	n/a
Hosepipe Ban Frequency	Days	1.5	3.1	3.1	4.64	4.64	nil
Mean zonal compliance (MZC)	%	99.93	99.97	99.93	99.96	99.96	-£0.6m
Negative water quality contacts	Contacts/ year	2329	2162	1,711	2,275	2,221	nil
Leakage	MI/ day	44.2	47.4	49.6	46.5	45.5	-£5.6m
Meter penetration	%	47.3	49.3	52.7	58.0	65.9	-£0.6m
Total carbon emissions	kgCO2e/ person	35	32	28	38	38	n/a
Raw water quality of sources	% of AMP5 baseline aggregate of algal bloom frequency (previously text)	+20% (Deteriorating)	+11% (Deteriorating)	-1% (Marginal)	-1% (Marginal)	-1% (Stable)	n/a
Biodiversity index	Index score (previously text)	17649 (improving)	17650 (improving)	17657 (improving)	17658 (improving)	17659 (improving)	n/a
Waste disposal compliance	%	96	96	98	96	96	n/a
Per Capita Consumption	l/h/d	141.1	144.1	144.5	142.8	142.0	n/a
Customers in Water Poverty	%	0.4	0.9	0.0	0.0	0.0	n/a
Service incentive mechanism (SIM)	Upper Quartile for previous year (previously 'top 5')	85.1 (5 th)	85.9 (6 th)	83.4 (12 th)	(86.7) Top 5	(87.0) Top 5	nil
General Satisfaction from surveys	%	83	86	87	93	93	n/a
Value for money	%	70	72	69	72	72	n/a
Ease of contact from surveys	%	94.8	94.4	93.1	96.5	96.5	n/a
Negative billing contacts	Contacts/ year	2,301	3,096	2,300	2,240	2,170	n/a

Figure 6: A summary of our performance over 2015-20

Our future

In February 2018 we published **Bristol Water...Clearly** which sets out our ambition to 2050 based on future challenges, key drivers and opportunities. This was an update to our *Water in the Future vision* which we published in 2012. A summary of our future ambition is shown on the next page.

Our ambition places customers and trust at the heart of how we continue to fulfil our responsibilities as a trusted owner and operator of resilient critical services.

We co-created this future ambition through a series of workshops with our customers, stakeholders, staff and Executive Team. We also drew upon the wealth of customer insight developed through our on-going engagement.

The process allowed the Board to engage with customers and stakeholders on its strategy and objectives at an early stage of developing our business plan outcomes. We developed a long term context with our stakeholders, alongside our approach to future markets, resilience and transformation. This context was further tested and consulted on in our draft business plan.

To develop our long-term ambition we reviewed:

- **Customers' priorities** and areas seen to require improvement
- Our **future factors**, key drivers and opportunities; including macro risks to resilience and the potential for innovation
- The context of our own **performance** and **corporate governance**, compared to the rest of the water sector and other utilities
- Alternative visions of the future, and how we should shape and adapt to these
- The understanding of **our role** as a water company

Our stakeholders challenged us to simply present how our focus on wellbeing and the environment related to our core role of providing high quality and reliable tap water. In partnership with them we developed the summary of our future ambition shown on the next page.

In this section we provide further detail on:

- Our future factors
- Key future drivers and opportunities
- Strategic risks to resilience; and
- Our strategic objectives and outcomes.



We are on a journey, we have a proud history of serving the communities around Bristol - which we are an enduring part of

A summary of our future ambition

1 Our water comes from catchments; we have to look after them for top quality water and environment in the future

2 Reservoirs and rivers are part of the local environment where people live, meet and enjoy

3 We excel at the community experience. We care about wellbeing and society

4 We are part of the communities we serve, with initiatives such as the Bristol Water Bar and Refill Bristol

5 Because we are part of the communities we serve, our customers trust us to deliver excellent experiences as well as top quality water

6 Our ambition is to address the challenges society faces. This delivers local community resilience.

8 We want to help customers to help their environment and save money through more choice on water efficiency

7 Technology and data, with our customer excellence, will allow us to meet your specific needs

10 We innovate by activating ideas and learning from communities in the areas we serve



9 Cutting leakage to keep supplies reliable and boost resilience

12 Affordable for all, for the wellbeing of society.

11 Working in partnerships with our stakeholders helps to get the best outcome at the lowest cost



Mission statement
To be a company that our communities trust and are proud of. To deliver excellent experiences and create social and economic value.



Future factors

Societal changes are key factors affecting our future strategy

We face a number of new challenges in the future. In particular, societal changes have a major impact on our future plans.

As part of the development of our long-term ambition, we consulted with our partners on the challenges we and our communities face and together we considered over 100 different future factors that might influence our long-term strategy. We expect factors such as the rapid change to society and disruption to its wellbeing to be the key external influence on our future.

Our long-term ambition anticipates considerable change in what customers expect for us. This is not unique to Bristol Water, but is particularly important to utilities where customers do not have as wide a choice about the services they receive as they experience from other sectors. It sets out how we must continue to respect and improve our local environment, while working with our communities to respond to their changing needs in the long-term.

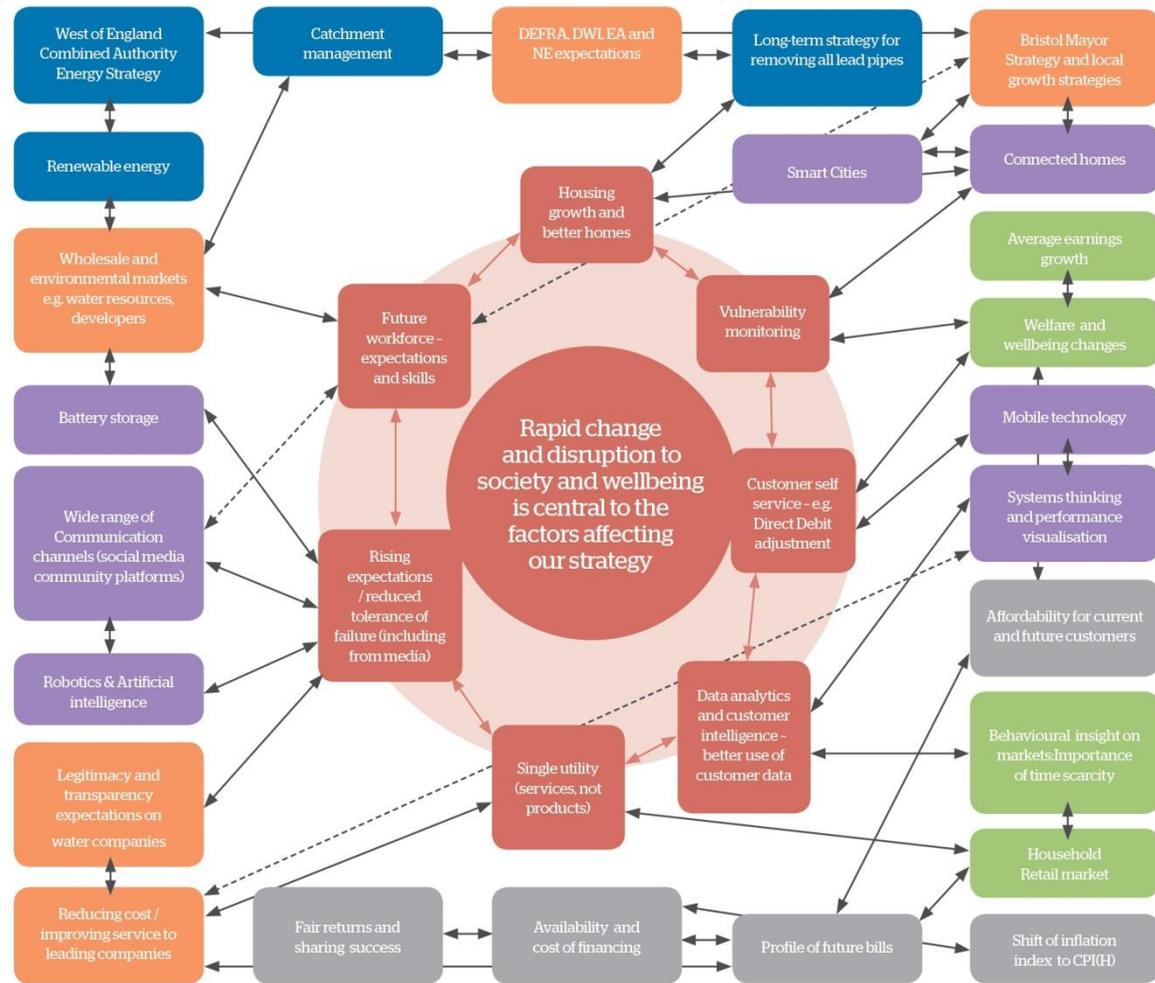


Figure 7: Some of the future factors which we considered when developing our long-term strategy

- Key**
- Political and Regulatory
 - Economic
 - Environmental
 - Social
 - Technology
 - Financial

Our journey

Based on our discussions with customers and stakeholders and on our analysis of future factors, we identified the **key drivers and opportunities** to our future plans, as well as the key **strategic risks to resilience** (see the figure below).

These fed into the development of our company **vision** and **mission**, which in turn influenced our **strategic objectives** and **outcomes**.

We summarise each driver and opportunity in the section below, followed by a review of our strategic risks to resilience. In the final section of this chapter we explain our objectives and outcomes.

KEY DRIVERS

1. Customer expectations
2. Affordability
3. Vulnerability
4. Resilience
5. Role in our communities and the environment



OUR VISION

Trust beyond water - we provide excellent experiences

OBJECTIVES

-  Excel at customer experience
-  Develop our people and the business
-  Being trusted
-  Leading efficiency

KEY OPPORTUNITIES

1. Collaboration
2. Innovation
3. Emerging markets



OUR MISSION

A company that our communities trust and are proud of. To deliver excellent experiences and create social and economic value

OUTCOMES

-  Excellent customer experiences
-  Local community and environmental resilience
-  Safe and reliable supply of water
-  Corporate and financial resilience

Figure 8: Summary of the drivers and opportunities feeding into our vision, mission, objectives and outcomes

Key future drivers and opportunities

Customer expectations

Society is changing and we have found that the needs and expectations for our services have not stayed the same over time. To ensure that we have a genuine understanding of the diverse views of our customers, our plans, whether short, medium or long-term, are based on extensive customer engagement, customer valuation data, option testing and refinement.

As part of this engagement we asked our customers about their priorities and the areas where they thought we needed to improve. We found that the provision of a clear, safe and reliable supply of water was consistently the top priority for our customers. We also found that customers expected us to go beyond the provision of this basic “product”, also providing an excellent “service” and further still, an excellent “experience” – see the figure opposite. Customers generally thought that the areas within “service” and “experience” were those requiring the greatest improvement.

We recognised the need to develop future ambitions which responded to these expectations through building on work to date with communities and to improve the environment.

This aspiration was also reflected in conversations with customers and stakeholders about our role. Both customers and stakeholders expect us to take a lead in looking at the long-term big picture. As

well as expecting us to deliver a reliable high quality product, they expect us to care about society, the environment and wellbeing. This included ensuring that our services are affordable and that we care for the more vulnerable. They expect us to deliver through a partnership

approach, while demonstrating the wider benefits of our activities.

Our customers and stakeholders also expect us to address the big challenges in society through utilising new technology and better ways of working.



Figure 9: Customer perception on our performance against their priorities

Affordability

We want our bills to be affordable for all of our customers, both now and in the future. Our ambition is to continue to eliminate water poverty by providing new and better services, in new ways, at a lower long-term cost. We also plan to continue to provide additional support for those customers who struggle to pay their bill.

Supporting customers in vulnerable circumstances

When shaping our services, we have to reflect the differing needs of customers, to ensure that our services are inclusive for all. In ***Bristol Water...Clearly*** we set out our long-term plans for vulnerability monitoring, including customer self-service such as Direct Debit payment choices being used to help trigger the promotion of services to potentially vulnerable customers.

Achieving long-term resilience

In recent years we have strengthened our resilience in a number of areas, including customer service, operations, environment and corporate resilience. We take a long-term view on this resilience, building on the benefits we provide as an innovative, local water company and we have long-term investors who help us to be efficient in how services are financed. In ***Bristol Water...Clearly*** we set out the key challenges to long-term resilience and our response (summarised below).

Role in our communities and the environment

In ***Bristol Water...Clearly*** we set out that as our role extends beyond the basic provision of water, we need to work with our communities to deliver long-term customer excellence and build resilience to events and future changes through our impact on society, the local economy and the local environment. We also aim to reduce our wider impacts by reducing energy use and producing more of our own renewable energy at our sites.

Collaboration and innovation

The close relationships we have built with our communities give us unique opportunities, with the potential to link into smart city partnerships and innovations. Bristol and the surrounding area is becoming a hub for testing new ideas and for collaboration with research institutions and businesses at the forefront of new technology.

There is a rapid pace of change in technology, and it's important that we respond to and be prepared for the future changes that affect the services that customers want and our role in providing them. Innovation in both the technology we use and the way in which we work provides opportunities to meet changing customer wants and needs.

We have already formed a number of strong partnerships to help us to deliver the best solutions at the least cost to our customers and to allow us to deliver wider benefits to the community through the way that we work. Examples of existing strong partnerships include Refill with City to Sea,

Resource West, The University of the West of England and West Country Water Resources.

Leveraging emerging markets

We expect to see changes in the way water services are provided and want to play a leading role to make sure they happen. To provide customer excellence and respond to growing expectations, we will need to transform over time to give customers choice around the services they receive.

In the long-term, we are ambitious to lead the sector in customer excellence, particularly as we expect that market developments will help to deliver the best value for customers. Choice may be over retailer (a choice business customers already have), but most important is choice over how services are received and how customers engage with them.

To deliver this, one of our ambitions is to work with others to develop a **new water efficiency platform**, allowing customers to choose, and for some products, pay for water efficiency devices. We will open up access to the platform to innovators of water efficiency products. We will use the platform to target support for customers with specific needs, and also use allow retailers to business customers to have equal access, particularly to get the economies of scale needed to target promotion of water efficiency to SMEs in the business retail market.

We have developed a **Bid Assessment Framework** for water resources and demand management services which we will use to engage the market for these important aspects of our business. We consulted on a draft of this framework in August 2018, publishing alongside our Water Resources Trading and Procurement Code and water resources market information.

Although our Water Resource Management Plan does not include new water resources schemes to bid in against, we are engaging on the potential new water resources to help mitigate the risk we face from an increasing cost of the Gloucester & Sharpness canal. We have considered a wide range of options already at this scale and there are no obvious solutions that would be in the interest of our customers or the environment.

In Figure 10 we set summarise how some of our **future factors** impact on our **Customer Promises**.

Future factors		
Customer priorities	Customer promises	Heat Map - how our plans for 2020-25 link to future factors
We give you a bill which you can afford	Lower bills for customers - affordable for all	Legitimacy of Bristol Water sees the right balance of bills, social tariffs and service delivery.
You get the best possible experience every time you need us	Achieving customer excellence	Using technology to being seen as on the side of customers in everything we do.
	Inclusive services that meets customers individual needs, especially when they are most vulnerable. Aiming for zero water poverty	Single view of the customer can expand into better use of data with others who are trying to reflect societal changes , particular social care and housing
Saving water before developing new supplies	15% leakage reduction	Long term resilience and legitimacy with our customers requires reduced leakage
	Metering and water efficiency promotion and support	Customers want some choice , and choice over water efficiency and metering is the right approach. Delivered in partnership with other utilities through Resource West.
Trust beyond water – helping you to improve your communities and the local environment	Accountable to the community partners we work with for the wellbeing of society – 'Bristol Water For All'	Partnership working that delivers more for less across a number of public service providers
	Building biodiversity and protecting our environment	Environmental and sustainability strategy requires catchment management and a natural capital tool such as our Biodiversity index
Keeping top quality water flowing to your tap	Improving water quality (including contacts for discoloration and taste)	Lead pipe replacement and customer supply pipes to be delivered in the long run.
	Reducing supply interruptions to 1.8 minutes per customer (our forecast of industry top quartile)	Traffic disruption in Bristol requires us to innovate, to provide data and fix and maintain pipes in a less disruptive way.
	Resilience – boosting protection for population centres of more than 10,000	More resilience to those communities where the most vulnerable live

High contribution
Medium contribution
Low contribution

Figure 10: Heat map showing the impact of future factors on our plan

Strategic risks to resilience and our long-term response

Using our review of future factors and through discussion with our customers and stakeholders, we identified our strategic risks to resilience and set out our proposed long-term response. This is summarised below

Climate change

Our draft Water Resource Management Plan demonstrates how we plan to be resilient to even the worst historical events by reducing leakage and customer consumption through water efficiency.

We do not currently have any environmentally damaging abstractions that require action, but we will investigate a few sites requested by our regulators. We also have an innovative use of the Abstraction Incentive Mechanism on one shared abstraction with Wessex Water. We will also reduce our environmental impact through energy efficiency.

Degrading environment

Our catchment management, together with our biodiversity index toolkit, help us to understand our links with the environment and to take action to protect natural capital. Traffic disruption and congestion in Bristol and surrounding areas is a key environmental impact which we will help to reduce through the Active Roadworks initiative.

Rising cyber-dependency

We have a strong IT platform to keep data secure and we are investing in further cyber security measures. We are exploring wider sharing of data, including innovations that link connected homes to our connected networks, and smart city networks for Bristol.

Polarisation of society leading to income and wealth disparity

We already monitor the percentage of customers in water poverty, targeting our vulnerable customer support and social tariffs as incomes change. Efficiency and financial resilience ultimately means we reduce costs to all customers in the long run. Our objective of “being trusted” focuses on our role in society.

Ageing population and workforce

Our objective of ‘*Developing our people and our business*’ forms part of our corporate resilience, which addresses risks such as this. We are planning for the future skills we need, and our partnership approaches with regional bodies (such as Business West and the West of England Combined Authority) helps us to deliver them.

Our innovation approach also helps develop the skills of our current workforce. Our strategy for society could see us playing a role in the future to monitor elderly friends and relations who may live on their own – in the long-term technology that monitors everyday water use could help to indicate when help is needed.

Stressed economics and social protection

We take a long-term and cautious approach to financing, reflecting the vital nature of the services we provide, for instance with a balance of long-term and short-term debt. We also see a role for us to play in social protection – using emerging technology to promote service choices to time-scarce consumers at the point they need us most but currently do not realise we can help.

Our strategic objectives and outcomes

We have set ourselves **four strategic objectives** which reflect our corporate priorities and together with our **four outcomes**, deliver our company **vision** and **mission** and long-term ambition

We think that through working to these objectives, and delivered through our outcomes, we will continue to be responsive to the expectations of our customers and stakeholders and we will play our part in meeting the future challenges which society and the environment faces.

Further information on our outcomes in the context of our plans for 2020-25 is given in Chapters 7 to 10.

Our objectives set our corporate priorities:

<p>Excel at Customer Experience </p> <p>Building trust and achieving customer excellence needs to continue. This is our top priority.</p>	<p>Developing our people and our business </p> <p>Our employees and delivery partners are key to our strategy - they are the source of our customer excellence and innovation. Customer excellence means we need to be ready for the future shape of utilities that provide services that customers want (potentially not just water), rather than just a product.</p>	<p>Being trusted </p> <p>The subject of our reputation runs through the entirety of our strategy and supports all the other strategic objectives. It is not only about maintaining legitimacy with customers, consumers, communities and other stakeholders, but also about them having trust in our stewardship of the long-term sustainability and resilience of Bristol Water and our local environment.</p>	<p>Leading Efficiency </p> <p>We are committed to transforming our cost base.</p>
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Our outcomes deliver the service improvements that customers value:

<p>Safe and reliable supply of water </p> <p>We look after our assets to provide high quality, reliable supplies for present and future generations.</p>	<p>Excellent customer experiences </p> <p>We transform our customer service to provide an excellent experience at every single interaction with you and your communities. We provide services which are rated by our customers to be within the top 10 of all UK companies.</p>	<p>Local community and environmental resilience </p> <p>We make our services robust to what the future may hold. We achieve this through collaborative working with our communities and through protecting and enhancing our local environment.</p>	<p>Corporate and financial resilience </p> <p>We achieve leading levels of efficiency through innovation. We secure the financing we need to smooth out the cost of our investment. Our bills are affordable for all, by keeping them low in the first instance, but also by helping those who struggle to pay.</p>
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5. Our approach to developing our plan

We have undertaken our largest ever programme of customer research to shape our business, as well as our business plan, enabling customers to participate in the future of their services.

Introduction

We exist to serve the needs of our customers, while fulfilling all of our regulatory and legal duties. We have sought to develop a balanced and fair plan, which appropriately manages trade-offs to:

- Be affordable to all customers
- Deliver the improvements that our customers would like and are willing to pay for, responding to the needs of both current and future generations
- Deliver our legal and regulatory requirements
- Deliver long-term resilience through improvements to environmental and social wellbeing, as well as financial resilience through the appropriate balance of risk and reward
- Result in tangible improvements to how we deliver, not just what we deliver.

In this section we cover:

- A plan which delivers for households
- A plan which delivers for retailers and their customers

- A plan which delivers for our developers
- A plan which meets regulatory requirements
- A plan challenged by the Bristol Water Challenge Panel
- A plan driven by our Board

A plan which delivers for households

We have a diverse range of customers who span all ages, ethnicities and socio-economic groups. Having a plan which balances the requirements of our different customers is, in itself, one of our key challenges due to the diverse nature of our customer base. We need to be mindful of differences in views and opinions among the people we serve and consider how these may evolve.

To ensure that our research is based on views which fairly represent our customer base, we have undertaken a customer segmentation exercise to group our customers using information such as age, income, housing status and number of people within the household (see Figure 11 overleaf for a summary of the segments). We used this information to recruit participants to research groups and events and also to interpret the results of research where we have not had direct control over participation.

We have also used focus groups to capture the views of our customers who are traditionally ‘harder to reach’, such as our customers for whom English is a second language.

We think that our engagement process may be industry leading and this is due to the depth and breadth of engagement we have undertaken with our customers and stakeholders. We believe it to be the most visible, and specific research into what customers and stakeholders want from their water supplier. It is not static and we plan for this engagement to continue in the future. This will enable us to adapt and improve our services as well as react to emerging issues.

Over the past two years, as well as taking into account the views of customers through our normal contact channels, we have undertaken over 50 separate research studies and engaged with over 37,000 customers. We have challenged ourselves to ensure that our engagement principles reflect those set out in Ofwat’s customer engagement policy statement. Methods of engagement have included:

- Our Customer Forum of 40 customers
- Our online panel of 2000 customers
- Deliberative research
- Revealed preference valuation studies
- Online slider tool
- Focus groups with seldom heard customers
- A Youth Board of 16 and 17 year olds
- Developer engagement days
- Quarterly retailer surveys
- Staff roadshows and online surveys
- Stakeholder engagement days
- Formal consultations on our Water Resources Management Plan, our long-

Our approach

term ambition and our Draft Business Plan, supplying our 500,000 households a summary of our draft business plan

- Extensive coverage of our plan on social media and local radio.

Our engagement roadmap is given overleaf. This shows the steps in our engagement process which are explained in the pages which follow. We then discuss how we have used this engagement to shape our plans.

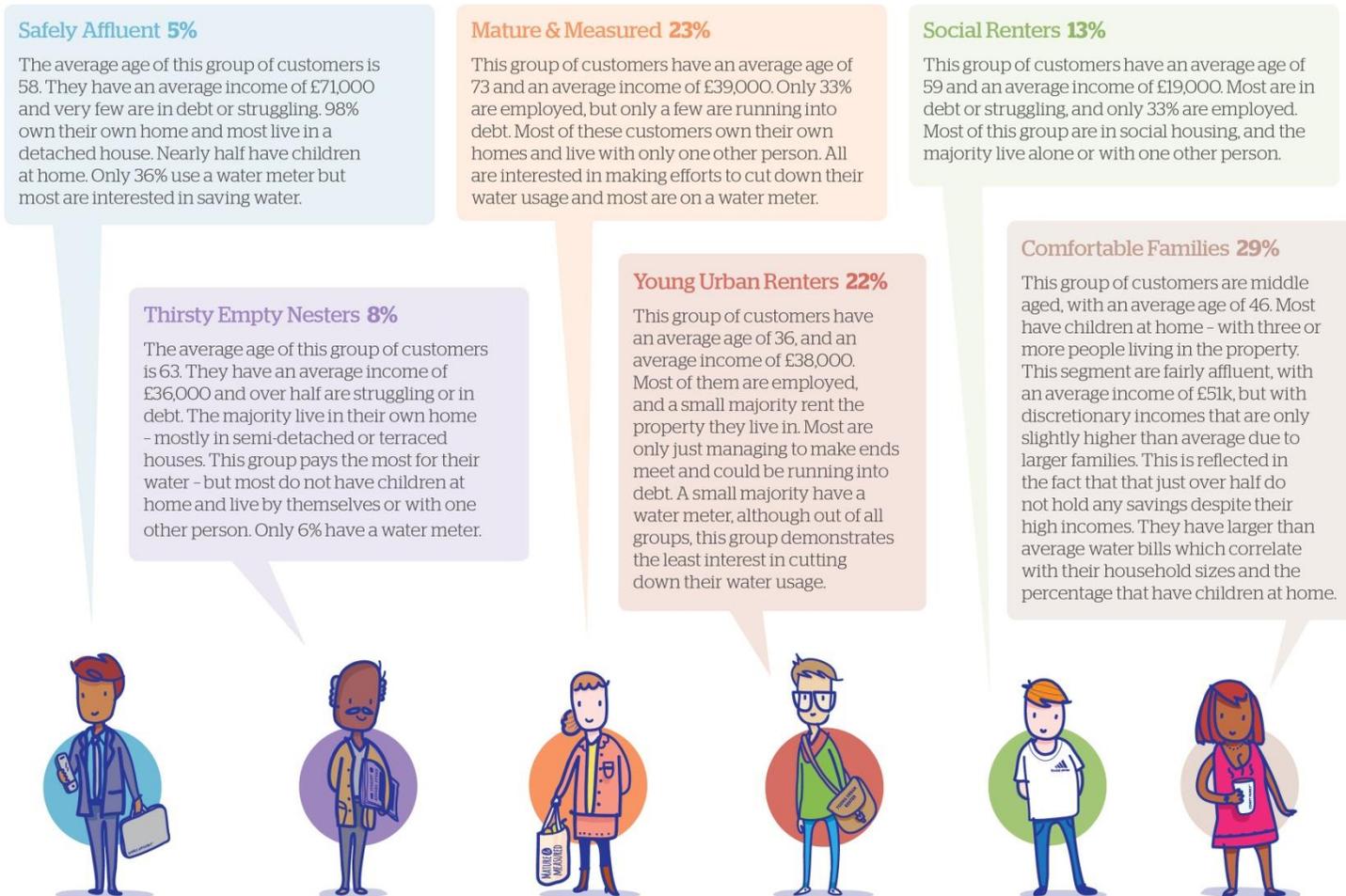
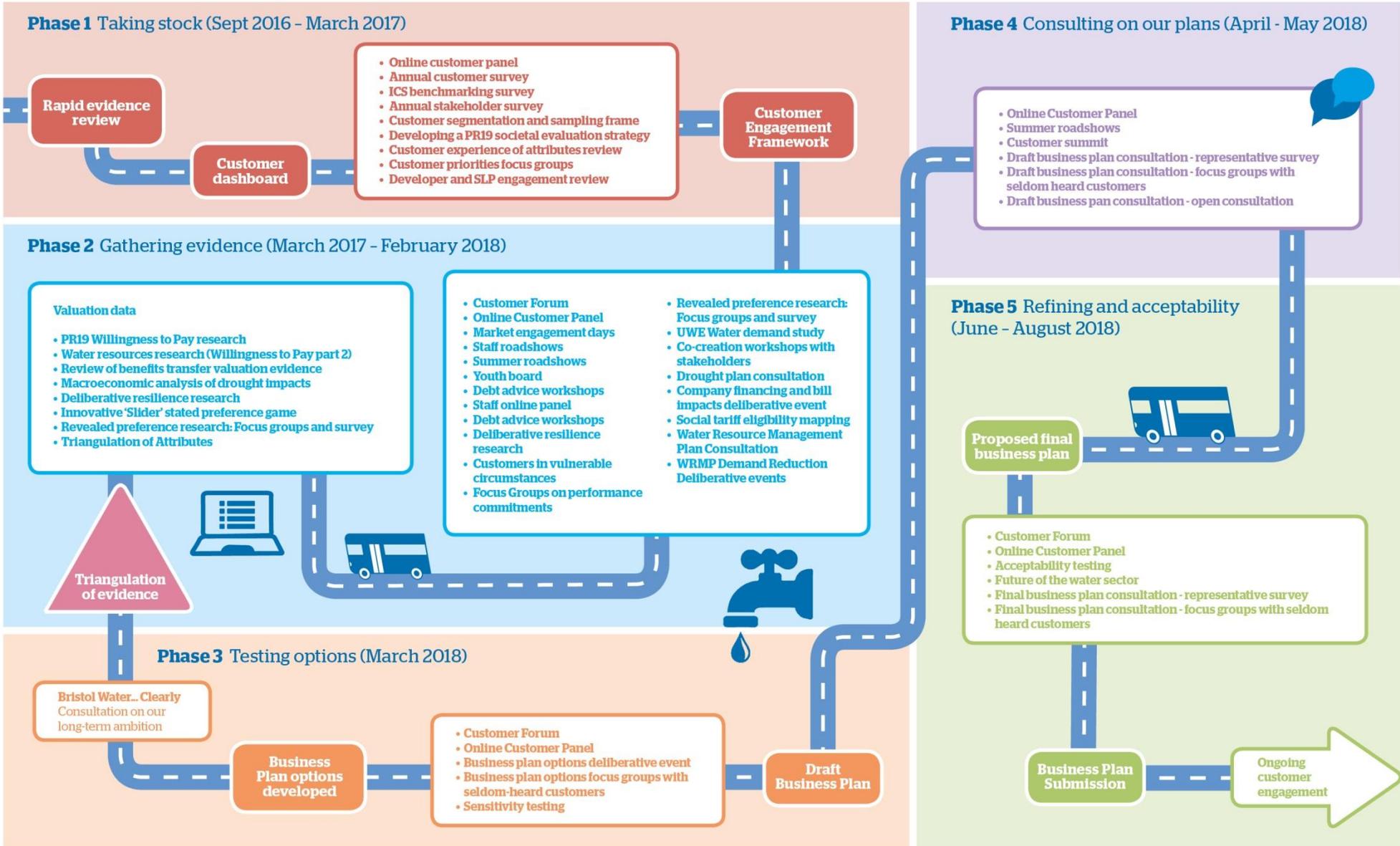


Figure 11: Customer Segmentation

Customer Engagement Roadmap

37,539
customers engaged



Steps in our engagement process

Our engagement process was carefully planned to understand the views of customers on a diverse range of topics.

Our engagement process over the past two years has consisted of five phases. The methods and timing of the engagement were designed to achieve an ongoing process of understanding, applying and testing customer views to refine our plans over a period of two years. We have triangulated all of the information and data we collected to ensure that we took a balanced view across a number of different sources.

We will continue this approach beyond PR19 as part of a 'business as usual' approach that maintains the active participation we have developed with our customers.

Throughout each of the five phases of engagement, we worked closely with the Bristol Water Challenge Panel to test our plans and challenge the interpretation of customer views and their impact on our plans.

Phase 1: Taking stock (September 2016 – March 2017)

At the beginning of our planning process we wanted to review and challenge our beliefs on what we knew about our customers, their views and opinions on their water supply. We knew that we needed an engagement plan that was targeted and that used a range innovative methods to gain new insights. We approached this in the following ways:

- Conducted customer segmentation to help us better understand who our customers are and what characterises their usage.
- Developed a new way to compile and review our day-to-day customer data (customer dashboard).
- Conducted a review of engagement to date (including PR14 valuation and qualitative research, as well as annual surveys).
- Refreshed our understanding of our customers' priorities.

Phase 2 – Gathering evidence (March 2017 – February 2018)

During this year-long phase, we used a range of methodologies for engagement on a wide range of topics which included talking to customers at our summer roadshows with our Water Bar, inviting customers to workshops and focus groups, asking customers to fill in online surveys, interviewing customers and hosting our own customer forum in our offices.

Some of our customers have continued to be involved throughout the process and have helped us to shape our plans based on their views.

We adapted our research to respond to what customers were telling us. For example, when we talked to customers about water resource management they clearly prioritised demand reduction over supply options. To learn more about this, we held additional deliberative events to involve customers in generating ideas and making decisions on demand reduction options.

Some examples of our in-depth engagement are:

- Our work with a range of vulnerable customers to understand how we could improve our service to them.
- Work with local groups who are involved in our environmental work to explore our relationships and shared goals
- Discussions with customers on how we should manage our water resources for the long-term.
- Surveys of customers who had experienced disruption to understand how it affected them

- Engagement with our future customers on what was important to them.

Based on the first two phases of engagement, we developed our list of the most important customer priorities. We published these as our key aims within our long-term ambition document **Bristol Water...Clearly**. We also brought together our customers and stakeholders to discuss the long-term role for Bristol Water.

We later refined the priority descriptions based on feedback on our draft plan.

Your priorities

- You give me a bill that I can afford
- We get the best possible experience everytime we need you
- You keep top quality water flowing to my tap
- Save water before developing new supplies
- Trust beyond water- helping you to improve your communities and the local environment

Figure 12: Customer priorities

Case study – revealed preference

We conducted revealed preference research in the summer of 2017 with customers who had been affected by three recent supply interruptions, asking customers about the actions they had to take as a result of them losing water supply.

Customers were asked how much they, and their household or business, spent on activities such as eating out and drinking an alternative to tap water and how they travelled to buy water or use alternative water facilities.

This enabled us to calculate the costs incurred by each affected customer based on the actions they took and the cost of travelling averaged across all respondents to estimate an average cost of the interruption.

The study surveyed customers affected by significant interruptions to their supply including:

- A 5 hour interruption in Whitchurch on 27th April 2017.
- A 6 to 32 hour interruption (depending on location) in Shirehampton, starting 27th May 2017.
- A 6 to 24 hour interruption (depending on location) in Willsbridge on the 29th July 2017.

Customers spent £12.31 on average due to the supply interruption. While a large share of customers purchased additional bottled water, the cost of this category accounted for less than 20% of total cost. Food and drink accounted for almost three quarters of total cost, while expenditure on

other activities (e.g. shower facilities and personal hygiene products) was relatively small (8 % of total cost). Across all activities, travel cost accounts for a relatively small proportion of costs incurred (approximately 20% on average).

The values from our revealed preference research have been considered alongside those from stated preference and reconciled using our triangulation process.

The learning points from these incidents have also reshaped our Alternative Water Supply (AWS) provision, which is now deployed earlier in shorter interruptions. Vulnerable customers now often receive bottled water supplies before they are aware of the interruption. Temporary supply locations now form an earlier stage of our incident planning, on a precautionary basis.

Our future plans will minimise such events, but our network knowledge and community relationships mean we can provide a resilient response in any event.

Phase 3 – Testing options (March 2018)

As we started to develop our proposed service level outputs and our bespoke performance commitments, we developed a range of programme options based on what we had heard from customers so far. We tested these through deliberative research and focus groups to test what customers thought about these options and whether we had presented them clearly enough.

We also explored how customer views on levels of investment in services changed at different starting bill levels. To do this, we used a scenario game played at a series of workshops including participation from customers on low incomes for whom we know affordability is a concern. This research helped us to understand that as starting bills increase, customers' appetite for investment decreases, with personal experiences having a strong influence on customer views. We also tested the service areas where our customers are prepared to pay more now for longer term benefit.

We shared an early draft of our performance commitments with our customer forum, asking them to tell us whether they reflected what we had heard from our customers. They challenged us to be clear about the commitments we had chosen, and gave us valuable advice on the clarity of the presentation of our plan.

Case study – seeking customer views on our vulnerability performance commitment

As well as talking to our customers in depth about the services we offer to customers in vulnerable circumstances, we asked what they thought we should measure to ensure that we met their expectations. We used our online panel and customer focus groups to test different options.

Our online panel prioritised measurement of the satisfaction of our vulnerable customers, followed by measurement of the number of customers supported. Views of customers in our focus groups were more mixed on the best measure. The Bristol Water Challenge Panel challenged us on how we would ensure that we continued to provide a great service to customers, when we were forecasting a significant increase in the number of customers supported.

On balance, we concluded that a measure of vulnerable customer satisfaction was the best way to encourage our staff to continue to deliver excellent customer experiences to customers in vulnerable circumstances.

We will also continue to report to the Bristol Water Challenge Panel on the number of customers on our Priority Services Register, as well as on those receiving financial assistance so that the Panel can measure progress against our aspiration to significantly increase the number of customers receiving additional support.

Phase 4 – Consulting on our plans (April and May 2018)

This phase of our engagement programme was designed to talk to customers about our draft business plan. Drawing on feedback from the previous phase, we presented three possible plans which represented slower, suggested and faster paths to the same long-term ambitions.



Figure 13: Our draft plans

The aim was to test the options as widely as possible with both customers who had been on the journey to develop the plan with us and those seeing it for the first time. We asked our customers:

- Whether the five priorities for our plan captured the improvements that were most important to our customers.
- Whether they preferred a slower, suggested or faster plan for each outcome – with the three plans reflecting the full range customer valuation data. Our slower plan offered our customers a lower bill in return for a gradual

improvement in service. In contrast our faster plan asked our customers whether they would be prepared to pay more to reach those goals sooner. We also asked our customers which level of improvement they preferred overall.

- With a sample of our customers we tested whether priorities and support for these plans changed depending on what efficiencies we could deliver (i.e. the starting level of the bill).

We provided indicative bill levels to inform the decisions we were asking our customers to make.

Through our range of consultation techniques, over 4,000 customers participated in our research (2,500 were new to the engagement process). We received over 3,500 survey responses and talked to over 200 customers face to face in workshops and focus groups. We promoted our consultation heavily, including sending a copy of our plan to every household as part of Water Talk (our customer magazine). We used social media and a two hour radio broadcast showcasing what we do to promote feedback.

Our Customer Summit was the highlight of our engagement programme. The summit brought together around 100 customers into our offices to review our draft business plan and to tell us whether we had understood and responded to what we had heard. These customers had been on a journey with us and throughout the process they had either participated in the customer forum, youth board or focus groups.

Quotes from customers attending the Customer Summit:

“We got to find out the draft business plan, we got to see how all the ideas we’ve contributed have come together into the plan – thoroughly enjoyed it.”

“It’s been lovely that Bristol Water want to involve the customers in their decision making so much, and how much they care about their customers has been very apparent.”

Phase 5 - Refinement and acceptability testing (June to August 2018)

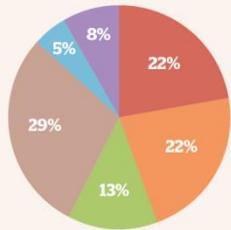
The final phase of our business plan engagement activity responded to the feedback received from customers on our draft plan. We undertook additional research to inform a small number of areas where customers had mixed views on our plan. This was conducted by an online survey and focus groups.

We also invited our most engaged customers, our customer forum, to a session to present our final plan and to recognise the crucial role they played in co-creating our plan.

We then undertook final acceptability testing to conform that our plan was acceptable to the vast majority of our customers via a telephone survey, online surveys and focus groups.

A summary of the steps in our engagement process is given overleaf. This highlights the iterative nature of our planning process.

Customer segments



- 22% Young Urban Renters
- 22% Mature and Measured Social Renters
- 13% Comfortable Families
- 5% Safely Affluent
- 8% Thirsty Empty Nesters

Customer priorities

Your priorities

- You give me a bill that I can afford
- We get the best possible experience everytime we need you
- You keep top quality water flowing to my tap
- Save water before developing new supplies
- Trust beyond water - helping you to improve your community and the local environment

Draft business plan

Our plans to deliver excellent water experiences

2020-2025
For consultation

Customers wanted the suggested improvement plan

Water bill in 2018, £185
The lowest average household bill for water supply only

Required improvements	Estimated cost
Excellent customer service experiences	£2
Local community and environmental resilience	£10
Safe and reliable supply	£14
Total increase to average bill	£26

Forecast average bill in 2020: £192 (taking into account forecast inflation between 2018 and 2020)

Estimated efficiency: -£30

Average bill in 2020 before inflation: £188

Equivalent average bill in 2025: £212 (taking into account forecast inflation between 2020 and 2025)

Forecast inflation: £21

Average bill in 2025 after inflation: £209

Our promise



1. Taking stock

Customers insight dashboard

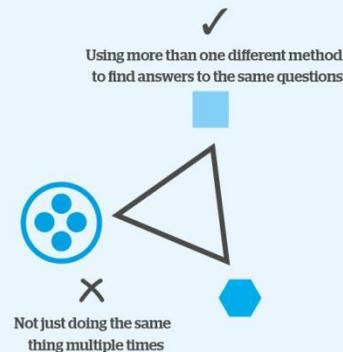
Customers engagement framework

Ongoing engagement

- Youth Board
- Customer forum
- Market
- Engagement days

2. Gathering evidence

Triangulation of our diverse evidence base



3. Testing options

Business Plan options

- Option 1
 - Option 2
 - Option 3
-

Our outcomes

- Excellent customer experiences
- Local community and environmental resilience
- Safe and reliable supply of water
- Corporate and financial resilience

4. Consulting on our plans

Public consultation

A total of 4,097 customers participated in the Draft Business Plan Consultation

	Target	Actual
Face to face discussions		
• Face to face focus groups	200	229
• Face to face survey	200	36
• Customer forum	100	35
Survey with engaged customers	1000	1203
Survey with new customers		
• Representative survey	1000	2497
• Customer feedback survey	1000	852
• Open consultation	200	262
• Customer postcode	200	200
• One call survey	200	281
Communications reach	700,000	>470,000 online experiences
		>20,000 water trials response delivered to home
		>20,000 community engagement
		>1000 broadcast

5. Refining and acceptability

Final business plan

Bristol Water For All

Our plan to deliver excellent water experiences

2020-2025

Spotlight on: communication of our draft business plan

We ran a six week social media and external communications campaign which shared our suggested plans in fun, engaging ways, and encouraged people to share their thoughts.

We ran Facebook Live Q&As, Tweetchats and live broadcasts.



We also gathered a group of local social media influencers and bloggers for a 'Go Social Jam', which resulted in our plans being presented to audiences with a neutral tone, and from different perspectives.

BBC Bristol Radio dedicated a whole breakfast show to an outside broadcast at a number of our sites. The show included a tour of works, an interview with our CEO, one of our employees reviewing the morning papers and listeners sending in their questions for us. We supported this with online posts and encouraged people to share their views of our plans. The broadcast had 60,000 listeners, all in our local area.



We also encouraged our employees to get involved. As well as running focus groups for their input on the plans, we ran an employee advocacy programme, encouraging them to ask local friends, family and neighbours to get involved and share thoughts.

To support our engagement with customers at events, we developed an engagement tool which we promoted on social media. We used this tool with customers at events. This presented our draft plans in an accessible format and gave customers the option to choose different levels of service improvements in the context of the impact on bills. This was particularly popular at our Water Bar.



Over six weeks we reached 477,000 online impressions, with 2.5% direct engagement. Every day we ran online challenges, quizzes, polls and competitions. Our two week Water Challenge raised awareness of how precious water is and encouraged our customers to save water. This was very popular with 26,500 impressions, resulting in us donating £4,500 to Water Aid.



Consultation: 6 week external communications and social media campaign

17,000

Tweetchat reach

8

social media influencers engaged

2.5%

engagement rate on social media

477,000

social media reach

Over 500

responses to Facebook polls

Over 300

Water Challenge likes

Over 500,000

Households received our draft plan through Water Talk

£4,500

donated to WaterAid

60,000

BBC Radio Bristol Breakfast Show
Outside Broadcast: 2.5 hours of
water chat, with 60,000 listeners



Over 700
responses to survey
at the Water Bar

What we learnt from our customers and how this was reflected in our plans

In this section we summarise what we learnt from customers on their investment priorities and the level of improvements that they value at both an individual service and as a combined plan.

We also summarise the insight that we gained from our retailers and developers and demonstrate how this informed our plans.

Our engagement with customers was not limited to understanding priorities for investment; we also tested other aspects of our plan, such as preferences for sharing mechanisms and the form of outcome delivery incentives. These results are summarised in the relevant sections of this document.

Further information and summaries of all of our individual pieces of work can be found in **C1 – Engagement, Communication and Research**. Further results at a performance commitment level can be found within chapters 7 to 9 of this document, which cover our outcomes and in **C3 – Delivering Outcomes for Customers**

Customers' priorities for service improvements

Our customers consistently prioritise having an affordable bill, a reliable supply of water, and having water that tastes good, looks good and has no smell. Other areas of importance include leakage and low pressure.

However, we have found that our customers have different views based on their experiences and circumstances. We know that bill levels are more of a worry for some customers. Those who have experienced interruptions want to see them avoided, while other customers tend to think of them as just an inconvenience.

We used stated and revealed preference studies to understand whether different aspects of our service were a priority to customers because they wanted to see them improve or, as in the example of water quality, because they are a crucial part of our service that they are currently happy with.

Based on what we consistently heard from customers throughout our research, we developed five customer priorities and these became the priorities for both our long-term ambition and our business plan.

Our consultation found that 93% of those surveyed said that our priorities reflected improvements which are important to them. We learnt that we needed to make explicit reference to water quality and the environment and, as a result, we modified the wording of our priorities in

our final plan. Some customers also suggested that we should clarify our plans around the environment and the community. We responded by agreeing to a specific list of community and environmental activities with our stakeholders through our discussions with the Bristol Water Challenge Panel.

Keeping water flowing and affordable bills were the most supported priorities, consistent with all our research to date.

We also used customer insight and participation to develop our four outcomes and 26 performance commitments. We tested these with the Bristol Water Challenge Panel and with our customers and refined these throughout the process.

We used triangulated customer valuation data, in combination with other information (such as industry benchmarks), as the basis for setting stretching performance commitments.

Customer engagement spotlight: The value our customers place on improvements to service

As part of our customer research, through a number of different studies and methods, we asked customers how much they would be willing to pay for levels of service improvements (known as stated preference). We also undertook a range of research to understand how customers value service improvements based on observed behaviour (known as revealed preference).

We used a process called triangulation to take into account all the different sources of information to develop high, medium and low ranges for customer valuations. We then tested this with our draft business plan and used the “bill sensitivity” results to inform our final plan and the economic incentives.

We developed a flow chart to test to what extent we could rely on a given valuation and whether we had any reason to think it might give an over or under estimate. For example, we know that our survey of the costs incurred by customers in an interruption does not factor the value they place on the inconvenience, so will tend to give a low estimate. To validate the ranges we used in our Business Plan modelling we carried out another valuation survey in May 2018. This survey asked customers to choose between our three possible plans, slow, suggested and faster, which were based on the low, central and high valuation ranges. We found that the suggested plan was acceptable to the majority of the 600 customers we surveyed, even when we tested different

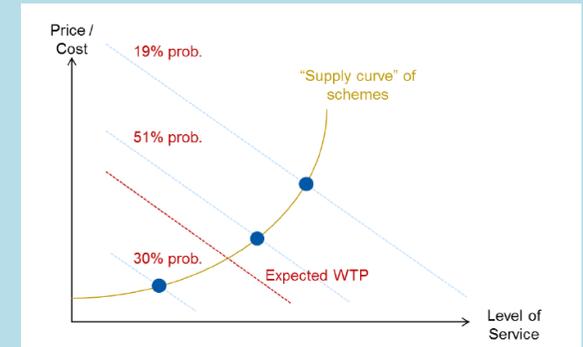
overall bill levels to simulate the effects of inflation or costs outside our control which could affect customer bills.

There has been a 63% reduction in customer willingness to pay amongst households since PR14. In part this reflects improvements in levels of service since PR14, but also a cautious approach to customer valuation. Based on anonymised information available on “stated preference” surveys, the Willingness to Pay (WTP) of Bristol Water customers at PR19 appears to be the lowest in the industry, although non-households show higher values. This in part reflects the relatively high level of our customers’ wastewater bills, in combination with customer views that services are currently good, even when presented with industry comparative information. However, we have found ways to improve services while lowering bills in a way our customers support.

Overall our customers told us that they valued avoiding interruptions and avoiding incidences of discolouration and poor taste most highly. We found that customers are positive about reducing leakage and water efficiency when we discuss it with them but assign lower values, as with metering.

We did not just rely on any one piece of research. Our draft plan tested the apparently low WTP by testing the sensitivity to different “starting” bill levels through our draft business plan. The acceptability of different plan service levels and bill impacts helped to refine our incentives design

as illustrated below. This innovation in Willingness to Pay triangulation is described in Section C3 – Delivering Outcomes for Customers.



We presented three service improvement options within our draft business plan, which were based on service levels calculated using the range of valuation data from our research. The bill levels reflected different investment plans and ranges for efficiency and the cost of capital.

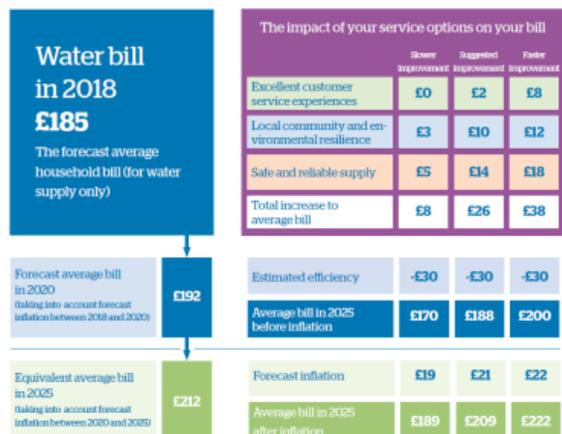


Figure 14: Draft business plan options

Our draft business plan included the following options (before inflation):

1. **Slower improvement plan**
11% (£22) bill reduction
2. **Suggested improvement plan**
2% (£4) bill reduction
3. **Faster improvement plan**
4% (£8) bill increase

Overall there was an even split of customers who preferred the slower and the suggested plans, at 44% of customers each. A further 12% of

customers preferred the faster improvement plan overall, **meaning that the overall level of support for going beyond the slower improvement plan was 56%**. Therefore, as a package, the majority of customers confirmed support for our suggested plan, although not an overwhelming majority. Affordability was a key driver with a £30 difference between the faster and slower plans.

Although the focus of our research was testing combined outcome packages, with many elements of our plan being interlinked, we also analysed the results at performance commitment level and by demographic and research method.

We found that customer support was strongly related to the cost of the investment options, with lower income groups least likely to support investment beyond the slower plan; this confirmed the importance of affordability.

Affordability was therefore a key driver for our customers when selecting their preferred plan. At a performance commitment level, there were five areas where the majority of customers preferred the slower plan to the suggested or faster plans combined. These are shown by figures of lower than 50% in the middle column of the table opposite.

	Slower plan or above	Suggested plan or above	Faster plan
Customer experience	100%	66%	8%
Vulnerability assistance	100%	64%	15%
Leakage	100%	56%	17%
Water used by customers	100%	48%	16%
Enhancing your local environment	100%	60%	22%
Stakeholders satisfied with our contribution to the local community	100%	44%	12%
Water quality	100%	46%	18%
Interruptions to supply	100%	33%	9%
Water that doesn't look clear	100%	54%	13%
Water that doesn't taste or smell right	100%	72%	33%
Protection against a major water supply event	100%	47%	23%

Table 2 Cumulative View of Level of Service Improvement

Water used by customers – we know that some customers disagree with the concept of being asked to pay more for their bill to use less water and they worry that their enjoyment of water will be impacted. We have learnt that customers are more supportive when we talk to them about reducing wastage rather than usage of water.

Contributing to the community - we know from our qualitative research that these are areas that customers do not often think of when asked about our role as a water company. However they are supportive of our individual projects even when they do not associate them with a wider objective. In particular, education and support for schools is

frequently raised by customers as a priority for us. We learnt that we needed to provide more information on specific projects for customers to be able to make an assessment of our plans.

Interruptions to supply and protecting against a major water supply event – consultation results were in line with our understanding that customers who have experienced disruption are more likely to support improvements than those who have not; our customers see occasional interruptions as inevitable and praise how we manage them.

Water quality - We know this is important to customers, that they are generally confident about the standards we already meet and question why further investment is needed. Customers were supportive of our plans to improve the appearance, taste and odour of water supplied.

We found that our customer views were divided on enhancing the local environment, with 40% of customers selecting the slower plan and 22% of customers selecting the faster plan. This split reflects the diverse nature of our customer base; affordability is a key driver for some, while long-term resilience for future generations is more important to others.

Impact of starting bill level on customer views

Given the importance of affordability to our customers we carried out a study alongside our consultation. The study, run by NERA, statistically tested how customers responded to our plans in the context of higher or lower overall bills scenarios; for example we looked at the impact of a scenario where greater efficiency reduced costs of delivering existing levels of service. In the survey we found that 68% of our customers preferred the suggested or faster plans. This figure increased to 70% for customers presented with plans that assumed that bills were £9 lower from efficiencies.

The findings tell us that customers are more likely to accept a suggested or faster plan if it can be delivered at a lower cost. We also found that this applied most strongly to customers who have lower incomes. We found that on average, lower income groups such as “social renters” show the lowest acceptability rates for any given plan, albeit still above 60%.

We also tested the effect of presenting customers with one or several plans to choose from. We found that customers tend to say that a single plan is acceptable, regardless of which plan we assigned to them. When we then gave customers three plans to choose from they tended to pick the middle one each time, with the exception of social renters who were more likely to switch to a lower plan when bills were higher. Finally, we tested whether providing customers with comparative

information about Bristol Water’s performance (relative to other companies) had an impact on their preferences, and found that it did not.

How we responded to these findings

Our Board reviewed the full results of the research and we asked them to consider the trade-offs within our plan on price and service improvements which were evident in our engagement with customers.

The Board responded by applying a further level of challenge to the efficiency assumptions included within our plan (building on our upper quartile level of efficiency in 2016-17 based on Ofwat, CEPA and our cost modelling by NERA and Economic Insight). The Board also limited the company specific cost of debt adjustment to the low end suggested by the available evidence, even though there was customer support for a higher number. These two factors are linked. The Board discussed slower progress on service targets and weaker incentives with the Bristol Water Challenge Panel. In depth research found that the price rather than lower service levels best reflected the wide range of customer needs and wants. This, amongst other plan refinements, had the impact of lowering the cost of our suggested plan by £16 (£188 to £172 for the forecast bill in 2025 before inflation – c8.5%).

The Board also explored the longer-term view on service improvements, informed by likely targets in future periods, if we did not keep pace with the

rest of the industry on service levels. This suggested that bill levels could be higher in subsequent periods if we delayed investment in key areas such as service interruptions.

Taking this long-term view into account and in combination with the reduction in bill, which our bill level research indicated would likely improve customer acceptability, we concluded (with the support of our stakeholders) that we would undertake further research and acceptability testing, while retaining the overall package of the “suggested” plan. The Board delayed the final decision on the overall plan balance until reviewing this acceptability testing.

Acceptability testing

To test that this package was acceptable to our customers, in July and August 2018 we undertook further research and acceptability testing with 1,479 customers, using a range of forums and methods to capture views in different ways and to ensure that the views of all our customer segments were heard.

These different methods allowed us to test the acceptability of the plan with customers who had different levels of engagement. As with the previous phases of research, we found that as customers learn more about Bristol Water and the business plan process, their views tend to change. It was particularly important to talk to future customers and customers on a low income as these groups had the most diverse views from our draft business plan consultation.

See the table opposite for a summary of the methods used and number of customers involved.

Provider	Method	Type	Number of customers
Bristol Water	Customer Forum	Face to Face	24
Accent	Focus groups	Face to Face	40
ICS	Online survey	Survey	304
Traverse	Focus groups with: <ul style="list-style-type: none"> • Future customers • Low income customers • Control group 	Face to Face	32
Traverse	Telephone survey	Survey	679
Accent	Online survey	Survey	400
	Total		1,479

Figure 15: Acceptability testing methods



We asked customers about:

- Our bill level (with and without inflation).
- Acceptability of our planned improvements.
- Whether the overall plan met their priorities.

Overall the majority of customers accept our final business plan, with few customers saying that it is unacceptable. Customers were pleased to see that we proposed to reduce bills in real terms, although some have concerns about levels of inflation over the period.

Generally, customers were more accepting of our plans when we spoke to them face to face rather than through the online and telephone surveys. Our most engaged customers from the customer forum had a higher level of acceptability and were pleased to see that their views from previous sessions had been taken into account for the final plan. Customers who received less information about our plan (such as those in the Accent online survey), were more likely to respond with “neutral/don’t know”.

Acceptability of the bill

The vast majority of customers found the bill to be acceptable, with between 3% and 6% of customers finding the bill to be unacceptable.

In the online and telephone surveys we were able to analyse the results by customer segment. As with previous research, we found that the plan

was most commonly acceptable to the higher income segments (comfortable families in particular), and least acceptable to our lower income ‘social renters’ segment.

Comparing this research with our draft business plan consultation, where over half of social renters preferred the slower plan, it seems that the final plan is more acceptable, but we still have work to do to make sure bills are affordable to all our customers and that customers who need help are aware of the social tariffs we offer.

In our online survey we asked customers for their views on how much of their bill should be variable based on performance. Most customers favoured bills with small levels of variability (a range of c£4).

We also asked whether customers would prefer penalties/rewards to be applied during the period 2020-25, resulting in small annual bill changes, or added at the end, resulting in a larger change. Customers across all segments strongly preferred small annual changes, with a minimum of 70% of customers choosing this option in each segment.

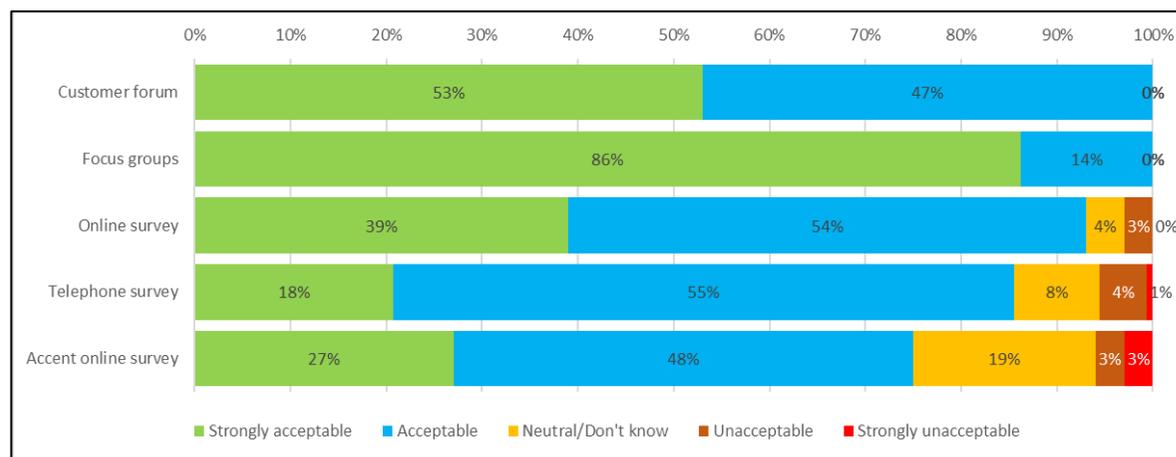


Figure 16: Acceptability of the proposed bill (real terms)

Acceptability of planned improvements

We presented our performance commitments for three service areas, corresponding to our outcomes and asked customers to what extent they agreed with the proposed changes, with varying levels of detail in each method. Figure 17 shows that more than 70% of customers agreed with each option and less than 5% disagreed, with the remainder expressing a neutral view or saying they did not know.

We found that customers were more strongly supportive of the water supply and environment and community issues in the focus groups, reflecting our previous findings that when customers have more information they tend to be more supportive. In our online survey we were able to ask about each of the performance commitments in turn. We found there were high levels of acceptability for each target and this included the five service areas with lower levels of support in our draft business plan. In particular, interruptions to supply had 67% acceptability at the lower starting bill, compared to 33% support for the preferred plan in our draft business plan. Results are shown in Figure 18.

In our online survey we tested whether customers would prefer our slower plan in return for a lower bill over 2020-25. A total of 18% of customers favoured this slower option.

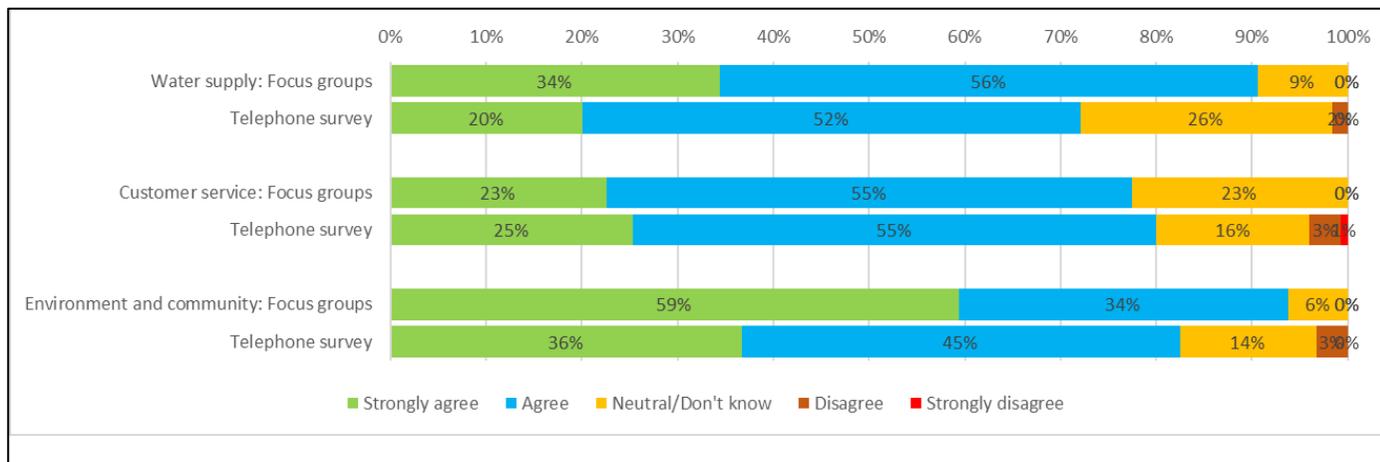


Figure 17: Acceptability testing of proposed service improvements

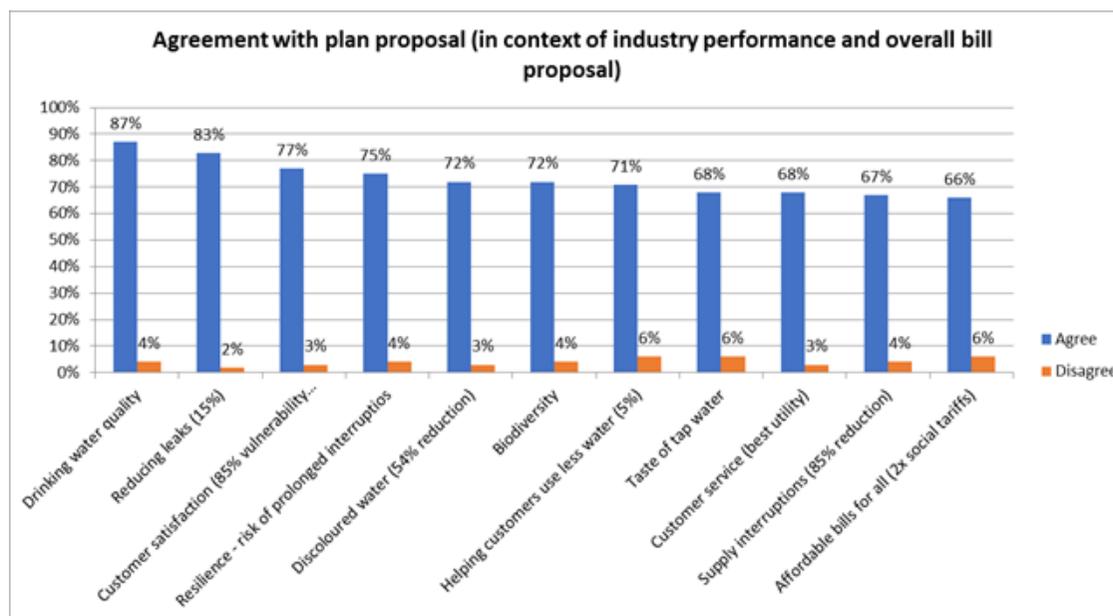


Figure 18: Acceptability testing results at performance commitment level

Whether the plan meets customer priorities

We asked our focus groups, telephone survey and customer forum whether they felt our plan reflected their priorities as customers. In our telephone survey, customers with whom we had not previously engaged, just 4% of customers told us that the plan did not reflect their priorities although as expected around a third of customers were not sure, or felt neutral about the question. Focus group participants were more positive still, with no customer disagreeing. We did not ask our customer forum a closed question on this issue, but we had animated discussions with them about how the plan had developed over the year we had worked together.

Customers from the forum were supportive of the plan meeting their priorities and gave positive feedback on the extent to which their views had informed our plan.



Figure 19: Picture taken during one of our customer forums, when we shared our draft business plan and sought feedback



Customer research case study – outcome delivery incentives (ODIs)

As part of our dialogue with our customers on incentives, we undertook an online survey to understand their views.

Options for the variable part of the bill

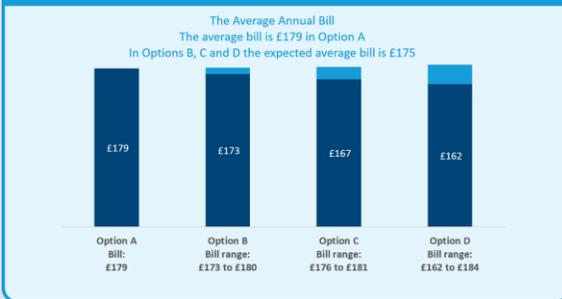


Figure 20: Bill options presented to customers (ODI packages)

We asked customers which bill option they would prefer (see Figure 20). Options included a fixed bill at a higher price or a variable bill with different size ranges. Packages B and C were the most popular (see Figure 21).

The top three reasons for ranking Package B first included encouraging innovation, encouraging meeting obligations and ensuring bills reflect performance.

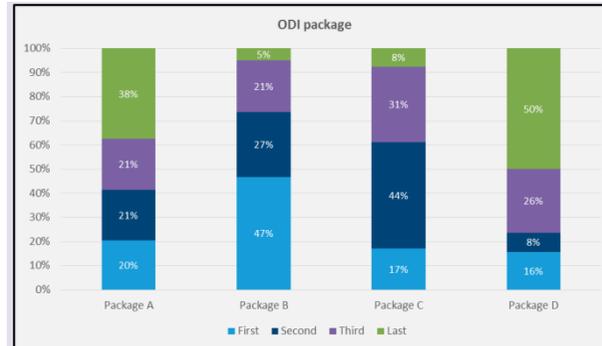


Figure 21: ODI package results

Where our customers suggested that they only wanted incentives for some areas they were asked which ones. Drinking water and reducing leaks were the top priorities (see Figure 22).

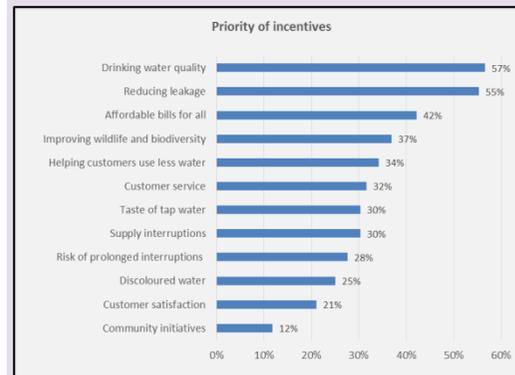


Figure 22: Priority areas for incentives

Most customers typically favoured regular bill changes for incentives, although some were happy to delay (see Figure 23).

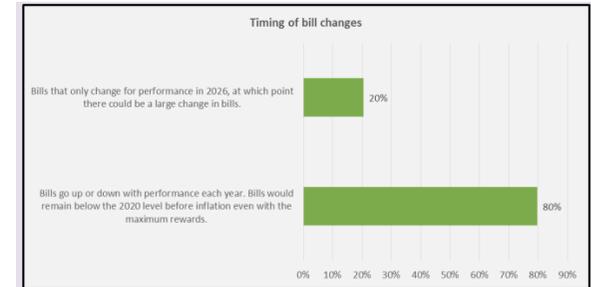


Figure 23: Timing of bill changes results

When asked about whether we should be incentivised to deliver community initiatives, 75% of customers supported an incentive - with 33% supporting an incentive of £5 and 42% supporting an incentive of £2 (see Figure 24).

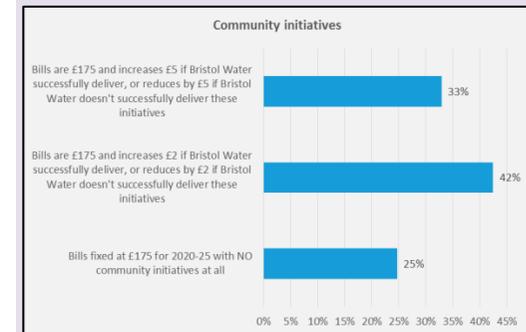


Figure 24: Support for incentives to deliver community initiatives

We used this research to develop our incentives, our £2.5m cap on annual bill changes and to explore the value customers had for our community initiatives, part of our “*Bristol Water for All*” sharing proposals.

We have spoken to a range of customers...



On a variety of topics



Using different techniques...

✓ Qualitative surveys	✓ Reconvened discussion forum
✓ Collaboration workshops	✓ Revealed preference
✓ Desk study	✓ In depth interviews
✓ Quantitative surveys	✓ Online customer panel
✓ Focus groups	✓ Co-creation workshops
✓ Online game	✓ Community engagement
✓ Deliberative research	✓ Valuation surveys



A plan which delivers for retailers and their customers

Since the opening of the retail market in April 2017 we have extensively engaged with the retailers we serve. We currently have 17 retailers active in our area.

Engagement with retailers takes place through a dedicated account manager through our retailer portal, which is designed to provide a continuous feedback avenue. We also carry out regular surveys to measure our retailer's perception on the service we provide. Since April 2017, we have sent three surveys, two with a focus on continuous improvement and one seeking feedback on our response and communications after a major incident.

We meet with our retailers to gain feedback on our service and how we can improve. The visits are also used as an opportunity to provide retailers with an update on our market performance and any relevant company news, which has included our plans for 2020-25.

We asked retailers what they thought of our draft business plan and many said that they have decided not to comment on specific PR19 plans due to the lack of capacity to review 23 Wholesaler plans.

To keep retailers informed, we took the approach of providing a summary of our plans during

account meetings. We have had limited specific feedback, but those who chose to comment found the plans to be acceptable.

"Bristol [Water] continues to be the most innovative wholesaler and the plans reflect this."

"Bristol Water's Portal is already one of the most user friendly, so plans to enhance this further are a great idea"

In particular we have found that our retailers appreciate:

- The way we invoice, which is much simpler and more efficient than the approach adopted by other wholesalers.
- Our app for Retailers showing meter locations and meter read information.
- The information posters we provide retailers around Water Efficiency, leakage, Water Regulations and preparing for extreme weather. Retailers can re-brand our publicity as part of their own service offering.

Our ambition to develop choice for residential customers through a water efficiency trading platform would also allow retailers to develop their efficiency offers, if they choose.

A plan which delivers for developers

We have worked to create a closer working relationship with developers and self-lay providers (SLPs). As part of this approach, we reviewed all the available insight from developers and SLPs to present a clear understanding of their priorities and perceptions.

We introduced our Market Engagement Days in 2017. These brought together developers and SLPs to build relationships, communicate information, and receive feedback. Through the events we have engaged on D-MeX, our new charging mechanisms, site issues, retail separation and our new website. Responding to feedback on visibility of actions, we followed up each event with a newsletter, which summarised thoughts and actions from the day and provided a feedback loop to answer any outstanding queries.

This engagement has been used to shape our plans, which include investment in a portal to provide notifications on the status of jobs to developers and SLPs. Overall, our plan results in lower costs to developers and SLPs, due to a lower requirement for network reinforcement expenditure.

A plan which meets our regulatory requirements

As well as delivering a plan which meets the expectations of our customers, our plan also responds to the requirements of our regulators. Overall we believe there is good alignment between the two.

We have no areas of disagreement with the quality regulators on our investment proposals and there is no tension with customer views that we have had to trade-off. Our current performance is also seen as a positive with good working relationships that allow us to respond to any emerging concerns, protecting customers at all times.

A plan which meets the Government's requirements

DEFRA has published a Strategic Priorities and Objectives Statement for Ofwat, which includes their expectations for water companies delivering for customers and the environment. In the figure opposite we summarise some of the key messages and expectations for the water industry from DEFRA.

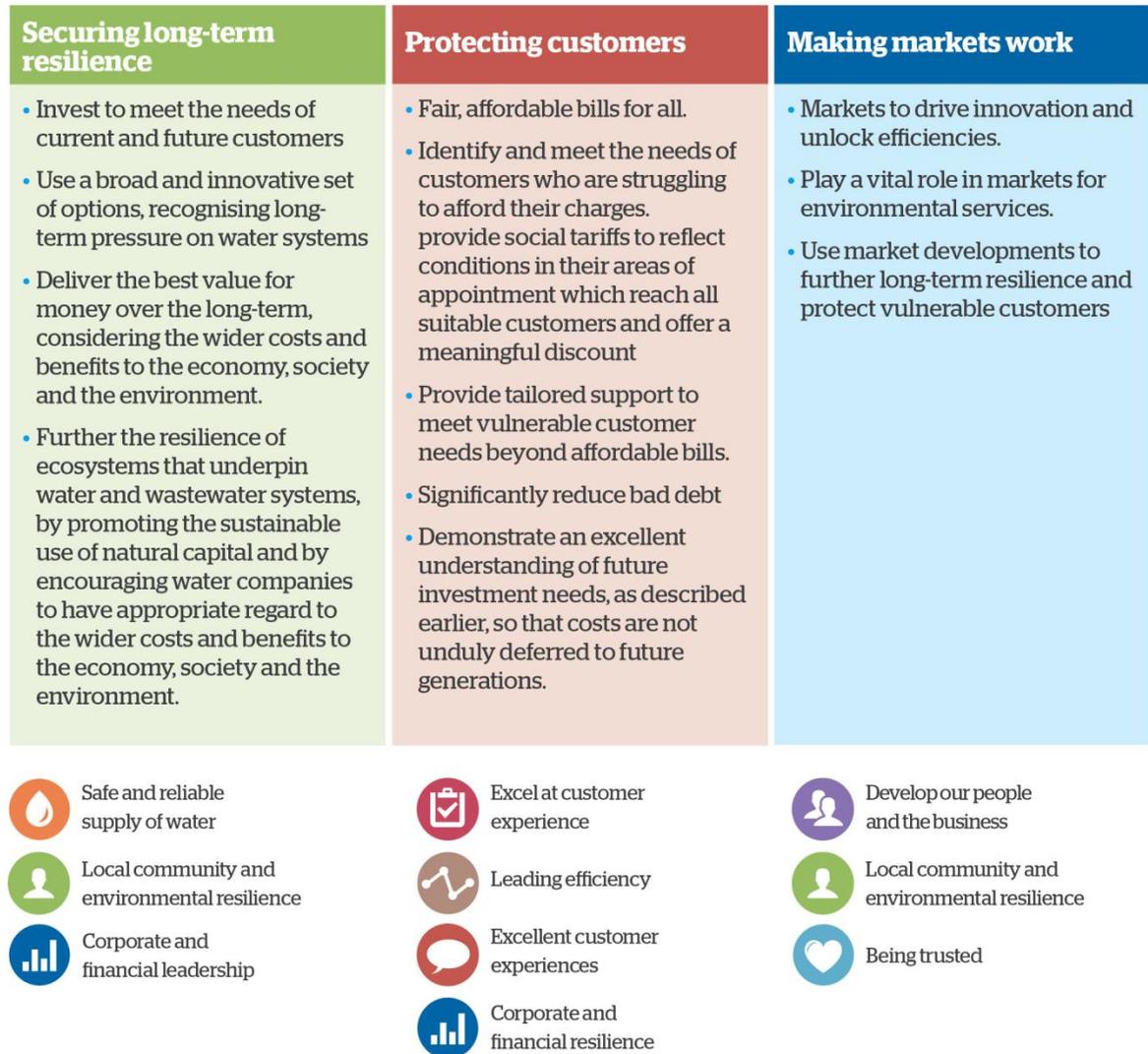


Figure 25: A summary of Defra's Strategic Policy Statement

A plan which meets Ofwat’s requirements

We have carefully reviewed Ofwat’s methodology for PR19 and ensured that our plans deliver each of Ofwat’s four key themes. These themes are strongly evident in our customer priorities, promises and outcomes. We provide a summary below.

Great customer services

We have an outcome dedicated to delivering customer excellence, including proving great services to our customers, whatever their circumstances. We aim to be the leading utility for customer satisfaction as we are already the leading water company, and are above average for all retailers, including all those where customers have a choice of supplier.

Affordable bills for all

In 2017-18 we achieved zero customers in water poverty through our social tariffs. Through a 6% bill reduction and expansion of social tariffs we aim to maintain this position in future.

Innovation and new ways of working

This plan is very different than previous plans and builds on our new ways of working to be delivered through our Transformation Programme. We have a long history of delivering innovative solutions through collaboration and engagement, both

through our academic partnerships and with our supply chain. Innovation and market engagement are key tenets of our future plans.

Long-term resilience in the round

Recent events such as the freeze-thaw event have shown that we currently have a high level of resilience, and that we are agile enough to adapt as circumstances change. Our plans for the future deliver continued operational, service, corporate and financial resilience through our outcomes. Our plan suggests specific measures where we need Ofwat’s support to deliver our plan, and we demonstrate why these are in customers’ interests.

The heat map in the table opposite provides an overview of how our plans map to Ofwat’s methodology.

Bristol Water and Ofwat’s PR14 methodology		
Customer priorities	Customer promises	Heat Map – Our 2020 – 2025
We give you a bill which you can afford	Lower bills for customers - affordable for all	8% reduction by 2025, through a combination of efficiency, social tariffs, more than offsetting a well supported additional cost of finance compared to Ofwat’s 2.3% industry assumption.
	Achieving customer excellence	Going beyond great customer services to a great experience in every interaction.
You get the best possible experience every time you need us	Inclusive services that meets customers individual needs, especially when they are most vulnerable. Aiming for zero water poverty	Up to 12,000 increase in the number of customers on social tariffs and meeting individual customer needs.
	15% leakage reduction	No major water resources investments, with spare water for water trading. A low cost investment plan without major new enhancements.
Saving water before developing new supplies	Metering and water efficiency promotion and support	No need for Direct Procurement, but early publication of our Bid Assessment Framework to encourage new entrants. Plans to develop a new water efficiency choice platform for customers and to help retailers through our portal.
	Accountable to the community partners we work with for the wellbeing of society – ‘Bristol Water For All’	Delivers our innovation by being open to new ideas. Brings community organisations, social entrepreneurs and our academic partners together to focus on the issues we can help to deliver wellbeing to society. Resource West and Bristol Refill are just the start of our journey.
Trust beyond water – helping you to improve your communities and the local environment	Building biodiversity and protecting our environment	Innovation beyond catchment management with a natural capital tool and linked outcome with our Biodiversity index
	Improving water quality (including contacts for discolouration and taste)	Resilience water quality with building trust through better information. No major investments required, and financial viability and customer trust sufficient as quality requirements change.
Keeping top quality water flowing to your tap	Reducing supply interruptions to 1.8 minutes per customer (our forecast of industry top quartile)	For supply interruptions, we have taken learning from Welsh Water and United Utilities to develop our strategy. The way we work with other companies means we always learn from them, and we hope they learn from us too. Traffic disruption in Bristol requires us to innovate, to provide data and fix and maintain pipes in a less disruptive way.
	Resilience – boosting protection for population centres of more than 10,000	More resilience to those communities where the most service event vulnerable live. This promise combines all four of Ofwat’s themes for PR14.

High contribution
Medium contribution
Low contribution

Figure 26: An overview of how our plans map to Ofwat’s final methodology

A plan which meets environmental requirements

The expectations of the Environment Agency (EA) and Natural England (NE) support the DEFRA Strategic Policy Statement. Their priorities, as set out in their Water industry strategic environmental requirements (WISER) document are for us to:

- Enhance the environment.
- Improve resilience.
- Sustain a high level of performance and operate in a way that protects people and the environment.

Further information on how we will meet each of the WISER requirements is given below.

In addition, our company specific environmental measures to be included within our business plan have been set out in the Water Industry National Environment Programme (WINEP). These requirements are also covered below.

Enhancing the environment

Water Body Status

We will continue to work closely with the Environment Agency to deliver our Adaptive Management WINEP projects to restore the rivers downstream of Blagdon and Chew Reservoirs and to achieve 'Good Ecological Potential' under the Water Framework Directive. These projects continue the existing National Environment

Programme (NEP – the AMP6 version of WINEP) obligations which we are successfully discharging.

Under the WINEP we will investigate eight of our abstractions to assess if they are causing deterioration to water body status under the Water Framework Directive. Depending on the outcomes of the investigations we will define and appraise options to mitigate these impacts. Our Water Resources Management Plan has been sensitivity tested to potential losses to deployable output as a result of these investigations, and is robust.

Our catchment management programme, which goes beyond the WINEP, will help to move Total Phosphorus status of our reservoirs towards the Water Framework Directive 'Good Status' thresholds.

Biodiversity and Ecosystems

Through our Strategic Biodiversity Action Plan, we will collect data, which will enable us to monitor the condition of all of our sites, including those with designated status (*Sites of Special Scientific Interest* and *Special Protection Areas*). We will use this data to direct our proactive and strategic management of these habitats. Specific projects currently planned include improving reed bed condition by staged cutting and scrub removal and extending reed bed habitat areas where these are cost-beneficial.

Sustainable Fisheries

We have collaborated with Environment Agency teams to deliver our AMP6 intakes related actions for eel protection, including installation of new screens at Littleton intake and 'Alternative Measures' in place of screen replacement at the Purton intake.

For 2020-2025 we have one WINEP requirement to install eel passage at Chew Valley Reservoir. This project, in alignment with EA policy, will be implemented at a time when other capital works are carried out on the same site.

Invasive non-native species (INNS)

During AMP6 we have initiated delivery of projects to reduce the risk of spread of INNS.

During AMP7 we will deliver further programmes of work to investigate, mitigate and minimise the risk of INNS on recreational and operational assets.

Drinking Water Protected Areas

Under the WINEP, we will investigate the relative influence of our waste discharge from Barrow Water Treatment Works on phosphorus water quality in the River Land Yeo.

Under the WINEP we will investigate the use of reed bed technologies to further improve our permitted discharges to the natural environment.



Improving resilience

Flood Risk Management

As a water-only company we have limited interaction with risk management authorities around flooding. Our existing assets have been assessed using the Environment Agency Flood Outlines Map to confirm that existing flood resilience investment carried out in AMP5 continues to provide appropriate protection. We are represented on the Strategic Flood Boards of all the major authorities in our supply area.

We will continue to communicate with the Chew Valley Flood Forum around the interactions of our reservoirs with flood risk downstream. The Forum is a community stakeholder on our continued NEP and WINEP Adaptive Management of flows in the River Chew. Through our catchment work and WINEP investigations we will continue to explore opportunities for implementation of natural flood management approaches alongside delivery of other multiple benefits.

Water Resources Security of Supply

In developing our WRMP19 we have undertaken a full environmental assessment to understand our potential impacts on the environment and to consider these impacts in our decision making. Our plan provides a reliable and resilient supply, driven by extensive customer research and is closely linked with our new Drought Plan. We have developed WRMP19 according to appropriate guidance including the Water Resources Planning Guideline 2016 and DEFRA's

Guiding Principles, and this has been demonstrated in our assurance process.

We plan to meet any projected deficit in supply and demand through reducing our already low levels of leakage, increasing meter penetration, reducing raw water losses and modifying our operation of existing bulk transfers to other companies. The plan has limited negative impact on the environment and is low cost.

Our customer research did not support compulsory universal metering. We continue to see metering as an important part of our strategy to provide a resilient service, both in the short and long term, and in the absence of strong customer preference for any action other than our current policy, we will continue the current policy of optional and change of occupancy metering.

In line with national guidance our Drought plan 2017 options were considered in developing our WRMP. Our Drought Plan has now been approved by DEFRA and has been published.

Further information on our 2019 Water Resources Management Plan can be found at the end of Chapter 8.

Excellent environmental performance

We have a number of environmental permits on discharges from water treatment works and from Blagdon fish farm. 100% compliance with all permits and licences is an AMP6 target and will continue to be so in AMP7. We are achieving approximately 98% compliance, with the small number of failures due mainly to the introduction of a new permit at Blagdon fish farm. We are working with EA to assess how to manage this site and until investigations and review are complete we anticipate that a low frequency of failures will continue.

We have caused no Category 1 or 2 pollution incidents over the years 2013 to 2017 inclusive. According to EA NIRS system one Cat 3 incident was recorded against Bristol Water in 2013, eight in 2014, three in 2015, one in 2016, and two in 2017. The most common cause of these rare events is run off into watercourses during works such as pipe laying, or run-off from mains bursts.

Meeting the requirements of the Water Industry National Environment Programme (WINEP)

The WINEP has been developed through working closely with our Area Environment Agency and Natural England contacts and our proposals will deliver long-term benefits to customers and the wider environment. Our WINEP requirements are:



- Develop a company-wide Biodiversity Action Plan linked to our natural capital accounting tool, the Biodiversity Index.
- Monitor, investigate and mitigate issues around invasive non-native species on our sites and relating to raw water transfers.
- Investigate abstractions which might be causing deterioration under the Water Framework Directive (WFD), and where required consider options to mitigate effects.
- Continue work to reduce the effects of our reservoirs on downstream river water bodies to meet WFD objectives.
- Undertake investigations to determine causes of catchment water quality issues and potential to improve raw water quality using innovative approaches.
- Implement programmes of catchment management to improve water quality in certain sources and to maintain condition of nationally designated sites.
- Implement eel protection as required under the Eel Regulations 2009 and according to EA policy.

We have developed a programme of interventions to meet and, where it delivers wider benefits in line with our customer engagement, exceed our statutory obligations under the WINEP.

A plan which meets the Drinking Water Inspectorate's requirements

For PR19, the Inspectorate expects water companies to ensure that their business plans provide public water supplies that are safe, clean and wholesome, and that provision is made for a sustainable level of asset maintenance to maintain public confidence in drinking water quality in the long-term.

Our plan targets full compliance with our statutory obligations for drinking water. We have strong foundations and our performance is amongst the best in the industry against the water quality compliance risk index. Our plan also considers the long-term resilience of our systems to deliver ongoing high levels of water quality in the future. Our biggest long-term risks to drinking water are:

- Lead pipes.
- Corrosion of iron mains within our network.
- Deteriorating raw water quality.
- Metaldehyde.

We consider how our business plan responds to these challenges and longer-term issues below.

Lead pipes

Phosphate dosing for plumbosolvency control has been successful in ensuring a good level of compliance against the existing standard of 10µg/l. However, phosphate dosing is not sustainable in the long-term and will not ensure compliance against the tightened standard of

5µg/l in the proposed revision of the EU Drinking Water Directive which may apply after 2022, with an implementation deadline of 2032.

Replacement of both lead communication and supply pipes is the only long-term solution to ensure lead concentrations are as low as possible at customers' taps.

Replacement of supply pipes on homeowners' properties remains a challenge due to lack of customer willingness. Research⁷ indicates that, while cost is probably the key barrier to lead pipe replacement for some customers, there is a lack of concern amongst others. Concern about disruption, the hassle and time required, and concern about finding a suitable contractor are also important. We plan to undertake pilot lead pipe lining trials during the period 2020-25 to compare its effectiveness and the costs against typical lead pipe replacement. The results of the trials undertaken during this period will be used to inform our long-term strategy. We have not included the additional cost of these pilots within our plan as we will deliver them within our existing maintenance and lead pipe replacement activities.

In addition, we have a programme to replace all lead communication pipes that supply pre-schools and nurseries and a precautionary lead communication pipe replacement programme where a sample shows a lead concentration

⁷ UKWIR "Customers' Lead Pipes: Understanding Reluctance to Change" 14/DW/04/15.

greater than 8µg/l at domestic properties. We will also carry out lead communication pipe replacements during any mains renewal work.

The estimated total cost of lead pipe (communication and supply) replacement within the Bristol Water supply area is £379m. Spread over a 50 year period this equates to a cost of £7.6m per annum. This cost is based on an estimated total number of lead communication and supply pipes within our company area of 353,570 and the current unit cost for a lead communication pipe replacement of £1,072. Changes over a shorter period (e.g. 12 years to 2032) will not be affordable and therefore we support a longer time period, with innovation, to reduce the cost alongside partnership working as housing stock in the city is improved in order to deliver this scale of future investment.

Corrosion of iron mains within our network

We will continue to reduce discoloured water complaints by targeting and replacing those mains which are deteriorating. We will also systematically flush those areas where we detect increased iron concentration and/or discoloured water complaints.

We will reduce taste and odour contacts through optimising water treatment and improved customer information, noting the impact of improved supply resilience in moving water around our region.

Deteriorating raw water quality

We plan to continue to put catchment management at the heart of our work in the Mendips to improve both raw water quality and biodiversity. The EA and NE continue to support our approach and there are catchment management schemes in WINEP3 to reduce nutrient run off for algae in Cheddar / River Axe catchment. The EA and NE have also provided general support for a wider catchment management and biodiversity programme despite no formal regulatory requirement for 2020-25; this work forms part of how we meet wider expectations of Government and our customers.

The impact of climate change over the next 25 years will counteract, to an extent, the benefits of catchment management activities and there will remain a significant risk of seeing more pronounced and longer lasting algae blooms in our reservoirs. Cheddar and Stowey Treatment Works rely on slow sand filters as their primary treatment process; the potential for algae blooms blinding the slow sand filters, restricting output and adversely impacting the quality of the treated water, will mean that we will improve these works by 2045 when the existing treatment is likely to have become no longer 'fit for purpose'.

The DWI has provided a Letter of Support to cover all of the slow sand filters at Cheddar Treatment Works to reduce the risk of algae proliferation in water above the filters and hence the risk of filter 'blinding'. However, at this stage we only have limited data during periods of increased algae

loading. To be totally confident that covering the slow sand filters is the most appropriate control measure to address the risks associated with the deteriorating raw water from Cheddar Reservoir we prefer to continue an investigative period of trials through AMP7.

We have proposed to the DWI that the PR19 Notice associated with Cheddar should be amended to an extension of the existing BRL 3506 Notice, which details investigations to be undertaken to determine the most appropriate solution. We accept that this could lead to an increased risk of enforcement to undertake remedial measures during AMP7 if we see any significant deterioration in treated water quality at Cheddar Treatment Works. We have taken this into account in our financial viability testing. However, we feel this risk would be outweighed by the extra confidence we would gain by ensuring any treatment related option would be the optimum solution for the risks associated with the deteriorating raw water quality. This way, customers do not pay in advance of us being confident that the right option for the long-term has been selected, without any risk to their supplies.

Our approach means that we can avoid making a decision on these works until the next business plan and with sufficient resilience to maintain services over 2020-25 in all circumstances (protected by the totex and outcome delivery incentive mechanisms should needs change quicker than expected). This provides us with the

maximum possibility to identify new solutions and for the benefits of continuing catchment management to be optimised.

Metaldehyde

Our catchment management continues to mitigate metaldehyde (slug pellet) risk, which together with potential restrictions from Government on its use, there is a clear long-term plan to address this challenge.

Formal undertakings

To support our plans for 2020-25, we have submitted four formal proposals to the DWI which were:

Alderley Treatment Works – phosphate dosing to target lead reduction.

Cheddar Treatment Works – treatment modifications to reduce algal loading, prevent taste and odour issues and improve system resilience.

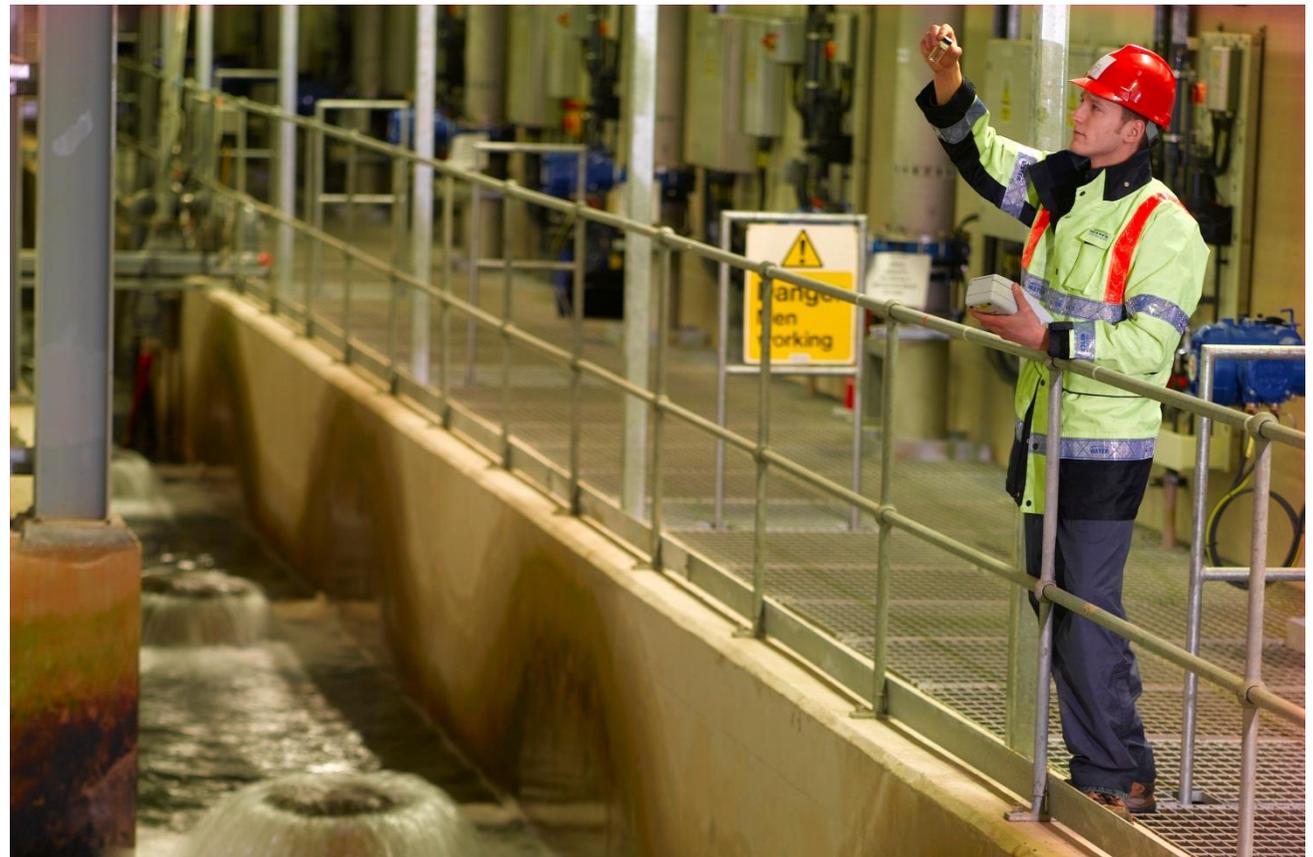
Lead strategy – The provision of a package of measures to secure or facilitate compliance with the lead standard. This will include:

- Precautionary lead communication pipe replacement (where sampling indicates lead at $\geq 8 \mu\text{g/l}$).
- Strategic lead communication pipe replacement (pre-schools and nurseries).
- Engagement with stakeholders.
- Lead pipe lining trial.

Purton and Littleton Water Treatment Works – catchment management activities / implementation of use ban to target Metaldehyde (slug pellet) reduction.

The Inspectorate has formally supported three of the Company's proposals and will put legal instruments in place to make the proposals legally binding programmes of work.

In relation to the fourth proposal, relating to building on current catchment management options to facilitate compliance with Metaldehyde, the Inspectorate is currently awaiting Ministerial guidance about future use restriction for Metaldehyde. Pending this decision, we will look to revise the existing Metaldehyde undertakings once this guidance has been received.



A plan challenged by the Bristol Water Challenge Panel

Our independent Customer Challenge Group known as the Bristol Water Challenge Panel (BWCP) was formed in 2015.

The role of the BWCP is to provide independent challenge to us an independent assurance to Ofwat on:

- Our performance against our current commitments
- The quality of our customer engagement; and
- The extent to which the results of this engagement are driving our decision making and are reflected in our business plan.

The BWCP is an independent group of interested and expert stakeholders with close connections to our local communities. The panel, or a sub group of the panel, has met 31 times since it was formed and has spent over 100 hours with us to review customer research plans and results and has challenged how these have been used to develop our business plan. Members of the panel have also regularly attended customer research events to observe first-hand customers' responses to the topics in question.

Independent Chair – Peaches Golding OBE



Peaches is the Lord Lieutenant of the City and County of Bristol. She is a trusted and respected business and community leader with an array of experience in representing customer groups, not least from her time on Ofcom's Viewer Panel

for ITV West. She is widely regarded for her work representing diverse and disadvantaged communities.

Independent deputy Chair – Tony Denham



Tony spent 10 years as the Consumer Council for Water's Local Consumer Advocate. Prior to this, he spent 35 years working in the energy sector.

Members of the BWCP

The following organisations are currently members of the BWCP:

- Bath University
- Consumer Council for Water
- Environment Agency
- Natural England
- North Somerset Council
- University of the West of England
- StepChange Debt Charity
- Mendip District Council

In addition, the BWCP has several independent members representing regional industry, local farming and public health. Outside of the BWCP meetings, we have engaged with stakeholders directly on a number of issues, as well as through group workshops to co-create our long-term ambition.

Minutes of the BWCP meetings are available on our website, along with their annual reports. The BWCP also maintains a log of any challenges to the company and our response, with c500 entries challenges. We responded to each of these and in many cases they influenced how we modified our plans.

Key challenges from the BWCP were:

- The design of our customer research to ensure that the results were both valuable and representative of our customer base, including engaging with hard to reach customers and customers in circumstances that make them vulnerable.
- The breadth and quality of our research to ensure that we developed a good understanding of customer priorities and valuations.
- The extent to which we had informed our customers to allow educated decision making on a realistic range of options.
- The extent to which we had engaged with our customers on longer term issues.

- That our methodology to triangulate the research results was transparent and reflective of customer priorities.
- The line of sight between our customer research and our plans and the extent to which the information we received from customers had genuinely underpinned the development of our plans.
- The level of stretch within our plans; including a detailed review and challenge of service level targets and proposed incentive design for each performance commitment.

Some examples of where the BWCP challenged us on our work were:

- Defining the variables that would feed into the customer segmentation. The challenge panel have then used the segmentation to ensure that the research is representative of the customer base.
- The effectiveness of our research, by taking into account both the feedback of the research events from the participants and the use of the insight to affect the business. We have used a structured governance and evaluation process to be able to answer and evidence these challenges.
- Looking for innovation both with the research techniques used and the levels of participation reached. This stretch was set early on with a challenge to increase the Drought Plan consultation ten-fold from the previous consultation. This challenge was exceeded and the approach has continued. The drive for innovation has also led to

increased challenges, in particular with the use of the 'Max diff' stated preference research.

- Prompting us to improve how we engage customers in conversations about environmental impacts and opportunities.
- Challenging us on how we planned to hit our metering targets and working with us to develop our 'Beat the Bill' campaign.

The BWCP has reported directly to the Board on any material areas of challenge. They also advised on whether we had fairly represented customer views within our decision making process. The Board responded by directing further work and analysis where appropriate and by attending BWCP meetings to discuss the challenges in further detail.

The panel has written a report to Ofwat on the extent to which customer engagement and customer evidence has been at the heart of our decision making process. The overall assessment of our business plan by the BWCP is given at the end of its report. This reads as follows:

"As a result of its review and challenge, the Challenge Panel considers that Bristol Water's business plan is grounded in very sound customer engagement, the results of which can be seen throughout the plan and in particular in the proposed outcomes, promises, service commitments and targets.

"Bristol Water has gained a good understanding of its customers' priorities, needs and valuations through its customer research. The business plan includes

commitments in areas of service that customers have said they value and prioritise and at a price they find affordable. It also includes commitments to meet all statutory and regulatory obligations.

"The proposed service commitments are aligned with Bristol Water's strategic objectives which are to provide excellent customer service, safe and reliable water supplies and local and community resilience. Performance targets are particularly stretching in areas where customers' priorities lie. In other areas Bristol Water has struck a reasonable balance between cost and benefit.

"Bristol Water's plans to ensure its services remain and become increasingly affordable and to further support customers in vulnerable circumstances are more ambitious and extensive than current activity in these areas. The Challenge Panel welcomes these initiatives."

The BWCP will continue to play a central role in challenging our performance and ensuring that our plans adapt to meet changing needs. One of the key things we have learnt during PR14 is the value we have gained from direct engagement between the Board and the BWCP. Their challenges covered not only plan content, but also Board governance over how the company would keep the trust of its customers and stakeholders. We have built this into our delivery and transparency plans.

A plan driven by our Board

We are on a journey of transformation and our PR19 business plan is very different to our previous plans.

The past few years have been challenging for Bristol Water and the water sector as a whole. Since the last Price Review, which resulted in the “prescribed” status of the company under Ofwat’s Company Monitoring Framework, we have responded to our challenges by beginning to transform ourselves.

We have re-shaped our company to reduce costs, reflected in the 17% reduction to average customers’ bills in 2015. At the same time, we have targeted ambitious improvements to our services, such as a 12% reduction in leakage targets by 2020, delivering a large metering programme and completing the Southern Resilience Scheme which was one of our largest ever investments.

On the occasions where our performance has fallen below our performance commitments, we have a full understanding of why and have acted quickly to recover the position. We have good knowledge of customers and our network, and have demonstrated we are resilient to unusual events. Therefore we are confident that in setting stretching targets for 2020-25, that these reflect our current and future customers’ interests.

Since our last business plan in 2014, we have changed beyond recognition. We have a new management team in place. We have a new majority (80%) UK shareholder (iCON Infrastructure). Backed by long-term investors iCON are well versed in owning and operating water and other regulated infrastructure, both within the UK and globally.

Our Board has also changed and established much stronger corporate governance and assurance of our plans. Our organisation, and our operations, have been overhauled and strengthened and we have carefully selected and recruited over 25% of current employees in the last 3 years. However, our transformation is by no means complete and we will continue to evolve over the coming years.

Although successful in delivering efficiencies so far, we have not yet met some of our challenging commitments to our customers. We are now embarking on a new phase of our transformation; developed from the ground up and with the right people, processes, and systems to deliver the range in improvements needed.

Our transformation will instil a commitment-based performance culture. We are implementing a new field-force management system, changing our supply chain to streamline our processes and bringing more accountability and control back into our organisation. The programme will result in a c25% increase in direct employee numbers, with improved skills and competencies that set customer experience as a core deliverable.

Our investment in end-to-end information technology will provide our customers with better experiences when they contact us. We are also developing our asset management capability and reducing the cost of operating our assets through innovative technical solutions such as Artificial Intelligence in water production to reduce the use of energy and chemicals. We are also investing in robotics process automation to reduce overheads. The Transformation Programme will deliver customer service improvements, in addition to £52m of new cost efficiencies by 2025 (around 9%), with around 80% delivered from 2020. This will ensure that we are prepared for delivering the challenging promises in our plan, and provide confidence to our customers and stakeholders on our ability to continue to deliver in the long-term.

Customer and community trust is a key issue, and we have maintained this trust through our operational resilience. Our investors have supported our transformation by reducing gearing, through retaining equity. This means we have a strong financial platform on which to base the hard choices faced in this plan – these include the lower financing returns, the need to reduce costs further, and the service delivery challenges that we face. In the long-run shareholders need to receive fair returns for their investment and support in the company, and ultimately for their investors who are pension schemes and insurance providers.



Our dividend policy sets out how actual returns will vary with performance, both cost and the stretching service levels that customers expect.

Bristol Water has developed, and consulted extensively, on a range of plan options. The draft business plan was approved by the Board, and the results of the consultation and subsequent research into the acceptability of the final plan informed the final decisions and assumptions that were approved by the Board. The Board also engaged with the Bristol Water Challenge Panel, who had challenged the management and Board of Bristol Water not only to engage in new and innovative ways to develop our plan, but also to consider what the results meant for our on-going corporate governance and stakeholder engagement in the business.

The final plan balances customer views on services and the environment against affordability in a way that appears sustainable for short and long-term. Reducing leakage and water consumption are long-term ambitions, but customer trust risks being undermined if this is done at a time of increasing bills. For metering in particular, a cornerstone of both these ambitions, compulsory metering is not acceptable to customers at this stage, and our plan does not require it. For some customer segments, such as social renters, they were the most price sensitive but also the most vulnerable to when services were challenged by events, such as supply interruptions. Customer and stakeholders were sceptical whether the ambitious performance improvements proposed

could be delivered at a lower cost. The research on our final plan demonstrates customer support for the pace of change and bill profile we propose.

Meeting our legal obligations to the environment and water quality saw no contentious areas during our plan development and we can provide certainty to both our regulators and customers that this will continue to be the case. The DWI, EA and NE expectations will be delivered and are not a material factor for bill levels over 2020-25.

Our final WRMP includes our leakage and water efficiency targets that we consulted with customers on and has spare water available for future water trading, as well as being resilient to supply and demand uncertainty.

Although the nature of our plan means that new and emerging markets in the water sector are not central to its delivery, we have taken this into account in our water resource and demand management plans. It also forms part of our long-term ambitions.

The Board considered all aspects of long-term resilience in the trade-offs and choices made for the plan. These are summarised below.

Day-to-day resilience – after PR14 the transformation had to deliver service targets at a much lower cost and with a different investment framework than was assumed when performance targets were initially set. This took time to transform and some performance areas slipped as

a result, causing performance penalties to be incurred. Learning from this experience, the Board explored the cost and service targets proposed for PR19 to ensure there was a clear and realistic plan on how both could be delivered. This also required extensive customer engagement to ensure research could accurately be reflected in decisions on investment. The targets are ambitious, and achieving them all every year is unlikely. Recognising this, the Board will be vigilant over our continued progress.

Long-term asset resilience – having completed the Southern Resilience Scheme, how we would extend this protection to more communities and widen the scope of resilience from sources of supply, to critical aspects of the network.

Affordability and vulnerability – reducing the bill in real terms, and keeping nominal bills below 2015 levels are important, but not sufficient. As incomes change, we will continue to target social tariffs at all those eligible – our current range is good and we have zero water poverty after adjusting for these, but only c50% of those we think will be eligible are currently receiving this support. Vulnerability for us means, inclusive services, particularly in incidents, and meeting individual customer needs. For this reason, we will focus on the satisfaction of individual customers with vulnerability support, as our engagement identified that it is those who find out after the event of the support we could have provided, are less likely to think we provide excellent services.



Financial viability – the support of our shareholders has been essential to building our financial viability in recent years, and equity has been retained which has reduced gearing significantly. The trade-offs in our plan have been:

An investment programme focused on maintenance rather than the large enhancement programmes in our PR14 plan - given we no longer see the need for new water resources. This means the plan has revenues that reflect higher operating and maintenance cost, after efficiencies and lower capital cost than our recent investment. This is the right approach for current and future customers.

Efficient delivery - we are confident we can set stretching efficiency targets of 8% immediately for wholesale capex and absorbing above CPIH cost pressures (c.0.9% p.a.) through innovations. Similarly for residential retail we include c0.5% p.a. of net future cost inflation, after absorbing input price pressures through 1.5% p.a. of future efficiencies. Wholesale opex costs had less scope for future efficiencies on a whole life cost base, due to the low level of enhancement maintenance expenditure. We believe the total cost to current and future customers is efficient and is justified for the range of factors influencing our plan.

Intergenerational equity – we consulted with customers on intergenerational responsibility for total cost. This informed our assessment of the split of cost responsibility between current and future customers. This results in a change of PAYG

rate from PR14, which is important for financial resilience.

Financing the efficient, additional cost of debt for a small, local supplier - this c£2.50 additional cost to customers in our plan is supported by them, is necessary for our financial viability and is justified by the service experience we provide. Our specific customer research clearly supports this view.

Maintaining actual financial ratios - this requires revenue to reflect the delivery of our plan assumptions, which are sustainable for the future. It is challenging because of the revenue adjustments that lower revenue in 2020-25 adjusting for our performance in 2015-20.

Stretching performance targets - the plan sets stretching performance targets with customers' support, in the context of falling bills, including our view of the lowest whole life cost of delivery. We tested a less stretching plan for a lower bill, but ultimately from a range of research and engagement, as well as long-term stewardship for the company, ambitious targets are justified. This is reflected in a balanced range of outcome incentives.

Annual incentive cap - for financial viability, we had to trade-off the annual impact from setting these stretching targets and incentives. While we are confident that our transformation has set us on the right course, we tested customers' appetite for positive and negative bill changes implied by our proposed performance incentives. Customers supported in-period incentives, so we rejected putting off performance adjustments until after 2025. For customer bill profiles and financial

viability however, we propose capping annual revenue adjustments to bills for ODIs and C-MeX at £2.5m in any one year, whether positive or negative, with any remainder rolling over to future years. We present compelling evidence in Section C6 that this is required for both financial viability and reflects customers' views on incentives.

Notified item - we also had to consider a major water resource cost risk from Canal and River Trust (CRT) that is currently uncertain and to a large degree outside of our control. We believe it is too uncertain to include a cost allowance in customer bills "just in case", and our view is that we will be successful in defending this risk. However, to balance risk and return in our plan and financial viability, we propose specific protection, subject to Ofwat scrutiny at an interim determination, that we have done all we can to avoid this difficult and uncertain risk, which has wider implications of public policy towards water resources and water resource markets.

Financial ratios - even with our risk mitigation and uncertainty proposals, in practice we may require further support from our shareholders as we deliver our plan. The reduction in financing costs in our plan, despite the low amount of capital enhancement, means we are targeting a financial ratio level for Moody's AICR expected to reflect Baa2 rather than our current Baa1 rating as a planning assumption.

Gearing benefit sharing - reflecting our own reduction of gearing since 2015 for financial viability, we adopt in our plan Ofwat's proposed benefit sharing should gearing increase above 70%



(based on our gearing excluding the £12.5m preference shares).

Reflecting on our plan as a whole, we also include new commitments through **“Bristol Water for All”**. We will reinvest 50% of the small company cost of debt if we do not deliver our key customer experience and community satisfaction commitments. This is a fair balance that reflects the ambition of our commitments to the long-term wellbeing of society and the environment.

Our plan is ambitious and given the hard choices we have faced in developing it will be challenging to deliver. Based on our recent experience we are confident in our ability to do so, and we will be able to adapt when targets are not met. It is the right plan for driving the business forward.

Checklist for our plan:

- ✓ **Built on customer trust**
- ✓ **Builds on current performance**
- ✓ **Efficient, ambitious and stretching**
- ✓ **Innovative community partnership model**
- ✓ **Clear set of customer promises**
- ✓ **Inclusive services**
- ✓ **6% reduction in bills by 2025**
- ✓ **Zero water poverty**
- ✓ **Bristol Water For All – our social contract**
- ✓ **Corporate and financial resilience**



6. What we plan to deliver

Our “**Bristol Water for All**” wheel sets out how we plan to meet our customer priorities. We have set ourselves stretching targets to deliver the service improvements that our customers value, while reducing bills by 6% by 2025.

Introduction

This section explains how the components of our business plan fit together to meet the expectations of our customers.

Our “**Bristol Water for All**” wheel (right) shows how our plan is:

- Founded on our five customer **priorities**
- Communicated through our ten customer **promises**
- Aligned to the delivery of our four **outcomes** (three customer facing outcomes and one, Corporate and Financial Resilience, which supports all the others).

In addition, our plan is measured and incentivised through our 26 **performance commitments and associated ODIs**.

Customer priorities and promises at the heart of our plan



The “**Bristol Water for All**” wheel is designed to be enduring, presenting how we plan to deliver customers’ needs over the long-term. It also addresses the expectations the Government and our regulators have of us. The three Ofwat themes of customer service, resilience and affordability feature prominently within the components of wheel.

The fourth theme of innovation is a key part of both our current and future delivery approach.

In this chapter we provide a summary of our plan using these component parts.

Our five customer priorities

Our five customer priorities reflect their top priorities and have been developed and refined over time through our extensive customer engagement. These priorities drive our plans.

Your priorities



-  You give me a bill that I can afford
-  We get the best possible experience everytime we need you
-  You keep top quality water flowing to my tap
-  Save water before developing new supplies
-  Trust beyond water- helping you to improve your communities and the local environment

Our ten customer promises

For ease of communicating our plan, we have summarised the commitments to ten promises based on those things which matter most to our customers. These promises link directly to the five customer priorities.

Our ten promises are:



<ol style="list-style-type: none"> 1 Lower bills for customers - affordable for all 2 Achieving customer excellence / leading utility company in UKCSI 3 Inclusive services that meets customers' individual needs, especially when they are most vulnerable. Aiming for zero water poverty 4 15% leakage reduction 5 Metering and water efficiency promotion and support 	<ol style="list-style-type: none"> 6 Accountable to the community partners we work with for the wellbeing of society - 'Bristol Water For All' 7 Building biodiversity and protecting our environment 8 Improving water quality (including contacts for discolouration and taste) 9 Reducing supply interruptions to 1.8 minutes per customer 10 Resilience - boosting protection for population centres of more than 10,000
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Our four outcomes

Our outcomes interconnect to deliver customer excellence for the wellbeing of society, our communities and the environment through linking our product, our service, and experience

Our outcomes are:

Outcomes



Excellent customer experiences



Local community and environmental resilience



Safe and reliable supply of water



Corporate and Financial Resilience

Impact of our plan on bills

Our bills on average will reduce by 4.5%⁸ in 2020 and 6% by 2025, before CPIH inflation. This is in addition to the 17% reduction in 2015.

To achieve service improvements while reducing the level of the bill in real terms, we have included significant efficiencies equivalent to £52m (around 9% of totex) within our plan, in combination with robust investment planning processes to identify the most cost beneficial solutions. This is on top of a business that has already transformed to what we estimate to be an upper quartile efficiency position for both wholesale and retail based on the latest industry efficiency modelling. The lower value of the appointee cost of capital at 2.7% compared to around 3.8% (RPI real) in the last planning period and has contributed to lower bills by c£7.

We have a significant cost risk relating to the Canal & River Trust, which supplies nearly half of our raw water via the Gloucester & Sharpness Canal. Their proposed price increase of around £8m per annum is not in the long-term interests of our customers or the environment and cannot be mitigated through normal business processes. We propose a notified item as the most appropriate mechanism to respond to this risk, reflecting that we will contest this increase.

⁸ Based on the average household bill

Bills for household customers

Our plan will result in a bill reduction of **£11** on the average household bill by 2025 in real terms (£183 in 2019-20 to £172 in 2024-25). Including the impact of projected inflation, by 2025 bills will increase by **£7** from 2020 (£190 to £197) or £13 from bills this year (2018-19) (£184 to £197). We forecast they will remain **£9** below the level that they were in March 2015 and therefore maintaining a bill reduction over a period of at least 10 years (£206 in 2014-15 to £197 in 2024-25).

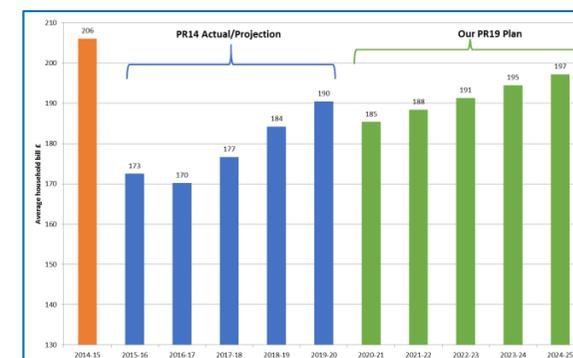


Figure 27: Average bill levels (Including Inflation)

Longer term bills

We expect bills to remain stable after 2025, based on assumptions of modest on-going future investment needs in our area. This is because

- We will be at the industry frontier in the key levels of service.
- We believe there will be, other than lead pipe replacement, little additional cost from the

potential update to the EU Drinking Water Directive.

- We are improving the land, river and reservoir habitat biodiversity, so we do not see major and expensive investment being required in the future. The actions taken in this plan have long-term benefit and avoid the major interventions that might arise if we did nothing that had a wider benefit.
- We continue to improve asset and supply resilience, and have strong operational resilience (for instance clear plans to reduce the remaining customers in population centres greater than 10,000 from significant water supply interruptions from critical asset failure). Financial resilience will continue to improve based on the package of measures within our plan.

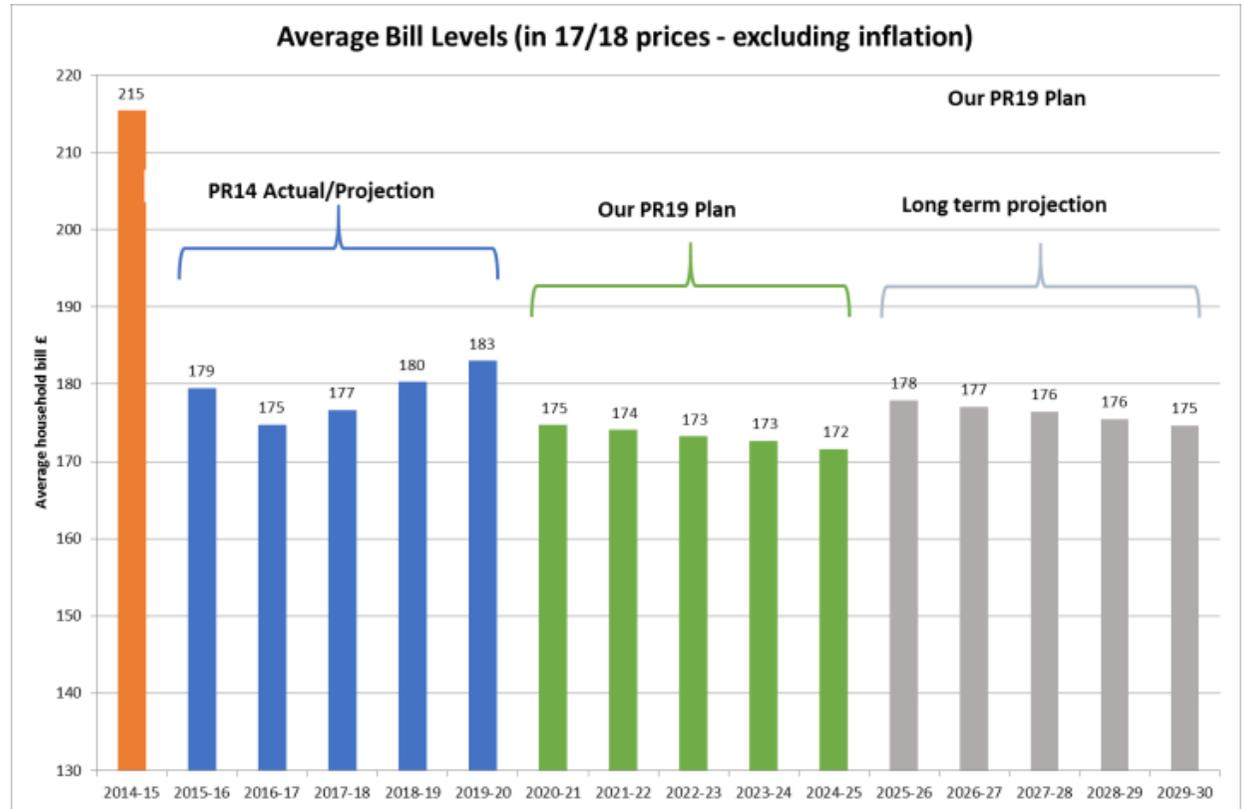


Figure 28: Average household bills (2017/18 prices) excluding inflation

Our 26 performance commitments

We deliver our plans through a series of performance commitments, developed through consultation with our customers and guided by Ofwat’s Final Methodology. These set stretching targets which are founded on customers’ priorities and the value that they attribute to service improvements.

Our performance commitments include common metrics for the industry that Ofwat expects us to include in our plan as well as bespoke commitments which reflect the major areas of essential investment. These also match our legal obligations, to target long-term health or our assets, and to reflect customer service priorities, in particular where there is a strong Willingness to Pay (WTP) for improvements. As industry performance changes (such as our top quartile target for supply interruptions), or where events happen, it is unlikely all targets will be met each year. We will respond effectively as challenges arise.

The targets in our plan for the areas that customers care most about deliver performance amongst the best in the industry (“upper quartile”) or better at the start, and in some cases may push the frontier of the industry forward by 2025. To do this, in some cases such as supply interruptions, we have to take a step change in performance by changing how we operate. In other cases, such as

the taste and odour of drinking water, we deliver this through better information to customers.

For a summary of targets against each commitment see Table 3 on the next page. Further information is provided in Chapters 7-9.

We have provided a user friendly interactive guide to our plan performance commitments and targets on our website.

<https://www.bristolwater.co.uk/performancecommitments/>



Outcome	Performance Commitment (PC)	Unit	2019-20 forecast performance	2024-25 target	2030 target	2050 target	Incentive type	Maximum outperformance 2020-25 (£m)	Maximum underperformance 2020-25 (£m)
Excellent Customer Experiences	Customer measure of experience (C-MeX)	C-MeX score	New measure	TBC	TBC	TBC	Reward and penalty	10.9	-10.9
	Developer services measure of experience (D-MeX)	D-MeX score	New measure	TBC	TBC	TBC	Reward and penalty	0.3	-0.7
	Percentage of satisfied vulnerable customers	Percentage	New measure	85	90	100	Reputational	-	-
	Percentage of customers in water poverty	Percentage	0	0	0	0	Reputational	-	-
	Value for money	% of respondents to survey	72	83	86	90	Reputational	-	-
	Void properties	% of connected properties	1.9	1.8	1.8	1.8	Reward and penalty	0.1	-0.2
Local community and environmental resilience	Raw Water Quality of Sources	Kg of P loss	Revised measure	531	533.5	541	Reward and penalty	0.2	-0.3
	Biodiversity Index	Biodiversity index	17659	17,711	17,761	18,723	Reward and penalty	0.4	-0.1
	Waste disposal compliance	% waste disposal compliance	96.08	100	100	100	Penalty only	-	-0.04
	WINEP Compliance	% compliance with WINEP	100	100	100	100	Penalty only	-	-1.0
	Abstraction Incentive Mechanism (AIM)	Megalitres (Ml)	New measure	2,843.40	2,843.40	2843.40	Reward and penalty	0.1	-0.1
	Local community satisfaction	% stakeholder satisfaction	75	85	85	93	Reward and penalty	0.8	-1.0
	Per Capita Consumption (PCC) (annual)	Litres per head per day	142	135	128.75	110	Reward and penalty	0.9	-1.6
	Meter penetration	% metered supplies	65.9	75	82.5	90	Reward and penalty	1.9	-1.8
Leakage (annual)	Megalitres per day (Ml/d)	43	36.5	36	35	Reward and penalty	9.4	-7.9	
Safe and Reliable Supply of Water	Water quality compliance	Compliance risk index	1.27	0	0	0	Penalty only	-	-1.4
	Discolouration contacts	Contacts per 1,000 people	0.93	0.43	0.34	0.1	Reward and penalty	0.2	-0.7
	Taste and odour contacts	Contacts per 1,000 people	0.44	0.25	0.23	0.1	Reward and penalty	0.2	-0.2
	Turbidity performance at treatment works	No. of failures	0	0	0	0	Penalty only	-	-4.2
	Supply Interruptions	Minutes / property / year	12.2	1.8 (top quartile)	1.6	1.0	Reward and penalty	1.7	-4.6
	Mains Bursts	Mains bursts per 1,000km	142	133	131	130	Penalty only	-	-3.9
	Properties at risk of receiving low pressure	No. of properties	69	60	45	20	Reward and penalty	0.6	-1.6
	Unplanned maintenance – non-infrastructure	No. of jobs	3976	3272	3272	3272	Penalty only	-	-4.7
	Unplanned Outage	Percentage	1.74	1.74	1.64	1.40	Penalty only	-	-0.5
	Risk of severe restrictions in a drought	Percentage	0	0	0	0	Reputational	-	-
Population at Risk from Asset Failure	No. of people	832,886	290,000	0	0	Reward and penalty	6.0	-6.4	

Table 3: Summary of the performance commitment targets and incentive values included within our plan

Our outcome delivery incentives

Outcome delivery incentives (ODIs) aim to ensure that we deliver our performance commitments for our customers. These incentives can be reputational or financial.

- Financial ODIs include underperformance penalties if we do not deliver our performance commitments for our customers and, where justified, outperformance rewards for going beyond the 'stretching' performance commitment level and delivering additional value for our customers
- Reputational ODIs provide an incentive to fulfil our commitments through reporting our performance to our customers and stakeholders.

Customer engagement on our plan and associated incentives has been used to determine the type of ODI and the level of penalty or reward attached to the financial ODIs.

We discussed the concepts of outcome delivery incentives with customers using a mix of analogies, games and examples, and asked them for their views on what type of incentives were appropriate for different performance commitments. In summary, we found that:

- Customers thought that the majority of incentives should be financial.
- The majority of incentives should include a penalty and reward system.
- There should be mostly in period revenue rather than end of period adjustments. We tested this further in later research and concluded that in-period financial incentives were supported by most, especially if there were mechanisms to prevent bill volatility outside of the bill changes overall in our plan (c.+/- £4).
- Some incentives should only apply in exceptional circumstances, both for outperformance where a step change in service levels is delivered, and penalties where performance is below historical levels. Customers ultimately want good service levels incentivised for today and the future, with unexpected shocks to bills being avoided.

Exceptions to this are:

- Drought risk – as this is a new standard metric for the industry.
- Percentage of customers in water poverty, value for money survey and vulnerability assistance – where there is little logic in financial incentives for good performance and reputational incentives (and stakeholder challenge) protect customers from poor performance. This could duplicate customer experience incentives.
- We have underperformance "penalty only" incentives for asset health measures (mains

bursts, unplanned outage, turbidity and unplanned maintenance events), meeting legal water quality obligations (Compliance Risk Index) and meeting legal environmental obligations (WINEP compliance, waste disposal compliance). We should not be rewarded for recovering from events that cause performance to fall short, or for meeting legal obligations.

A summary of our ODI's is provided on the next page. This shows the range expected to happen 80% of the time, with outperformance payments and underperformance penalties for unexpected circumstances also highlighted.

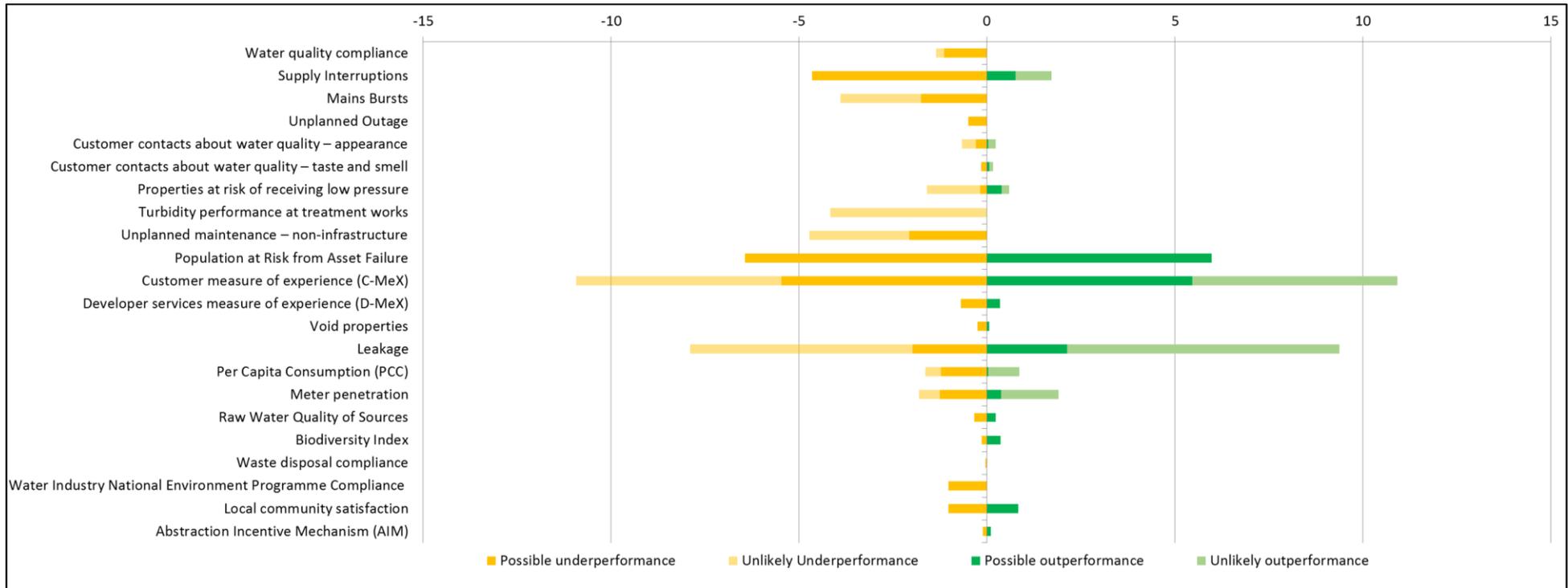


Figure 29: Outcome incentives over 2020-25 in 2017/18 CPIH prices (£m)

7. Outcome 1: Excellent Customer Experiences

We aim for excellent experiences for our customers and always provide an effective response that builds trust. Our services are inclusive, being affordable for all and meet individual customer needs, including those in vulnerable circumstances.

Introduction

We provide an essential service to a diverse set of residential customers, businesses, developers and retailers in the area we serve. Customer excellence means providing the best possible experience in every single interaction.

In this chapter of our Business Plan, we explain how our plans for the period 2020-25 will allow us to achieve **Excellent Customer Experience**. We also present what we are already doing, and the performance commitments we use to track our progress.

Key Messages

- We will make it easy for our customers to find out what they need from us.
- We will share our street works information and work with stakeholders to reduce the level of disruption from these activities.



- We will develop fully-automated self-service portals for our retailers and developers.
- We will treble the number of customers we support who are in vulnerable circumstances.
- Our bills will be affordable to all – we will continue to eliminate water poverty.

Background

To achieve Customer Excellence, we will implement initiatives to deliver on three customer promises:

- **Achieving customer excellence**
- **Inclusive services** - meeting the needs of customers in vulnerable circumstances
- **Value for money and affordability**

Performance Commitments

Excellent Customer Experiences

- 1 Customer measure of experience (C-Mex) £ £
- 2 Developer services measure of experience (D-Mex) £ £

Inclusive Services

- 3 Vulnerability assistance

Affordability for All

- 4 Percentage of customers in water poverty
- 5 Value for money survey
- 6 Void properties £ £

🗨️ Reputational ODI
 £ £ Under-performance penalty ODI
£ £ Under-performance penalty and over-performance payment ODI

To hold us to account, each of our promises is linked to one or more performance commitments. A total of six performance commitments will be used to track our progress towards Excellent Customer Experiences. Each is also linked to outcome delivery incentives (ODI) to help ensure that we deliver for our customers and, where appropriate that we are incentivised to outperform through innovation.

Against this outcome, we have three performance commitments with financial outcome delivery incentives (ODIs) and three reputational performance commitments.

Promise: excellent customer experiences

Our customers' views



What matters the most to our customers

Our data shows that the satisfaction of our customers and the time it takes for us to resolve their queries go hand in hand. Those customers who have mentioned negative experiences often explain that this reflects a lack of regular updates and a desire for fuller explanations. Areas for improvement include speed of resolution, keeping customers informed along their journey and the ability to communicate with us in their channel of choice.

Our customers consider traffic disruption to be an important part of the customer experience. When we asked our customer online panel, 38% of respondents had been affected by our work due to road traffic disruption – a much higher figure than anything relating to water supply. Our customer panel gave mixed views on whether traffic disruption should be something customers contribute to mitigating. When we asked our online panel, 69% said they would not be willing to see increased bills if roads could be reopened more quickly.

Our insight tells us that we must go beyond simply providing good customer service when our

customers contact us and consider the wider impacts of our activities, such as our roadworks. We also need to play a greater role in supporting community wellbeing. For example, to ensure our customers receive a bill they can afford and have access to our services, we will collaborate with stakeholders to raise community awareness of the support we offer.

Our annual stakeholder survey in 2017 told us that 85% of our stakeholders and business customers think we provide a good or excellent service, and 69% think that we are good to do business with.

When we talked to developers, they thought that improvements could be made to the application process and they welcomed the introduction of a new Developer and Self Lay Providers (SLP) portal to manage applications and other works. Developers and SLPs are positive about creating a closer working relationship and value more engagement and communication through our Market Engagement Days as well as face-to-face meetings.

We understand that to excel in the competitive market, developers need a first-class service from us as a water wholesaler. For SLPs, we understand that they have strict deadlines to meet. Our plans are therefore based on national standards and the targets set by Water UK.

Our retailers have told us that they value our approach to supporting them and the close working relationship we have with them. They are generally satisfied with the services that we currently provide and we understand that to excel

in the competitive market, retailers need first class service from us.

Customer feedback on our draft business plan

To guide the process of talking to our customers about our business plan, we presented three possible plans. These alternatives described **slower**, **suggested** and **faster** paths to the same long-term ambition, which we also consulted on.

When we presented these alternative strategies to our customers, they highlighted the importance of good customer service and generally supported the *suggested* plan. Some customers questioned the *faster* plan, where we compared our service to major retailers (such as Amazon), and whether it was necessary to pay more for improved customer service (as some saw this as an internal Bristol Water issue).

The majority of customers (58%) chose the *suggested* plan, despite the fact the *slower* plan would add no cost to the customer bill. This shows that customers are willing to pay a small amount for improvements to customer service.

Based on this feedback, we decided to **continue with the suggested plan for our final plan acceptability testing**, mindful that many customers see great customer service as a normal business activity.

In our final plan acceptability testing, in the context of both comparative information and the proposed bill, 68% of customers agreed with our aim to be the best utility for customer experience and only 3% disagreed. In the telephone survey

with less information, 80% of customers agreed with our proposals and only 4% disagreed.

What we have achieved so far

Independent surveys by the Institute of Customer Service (UKCSI) indicate that **we provide our customers with the best level of service in the water industry**, and one of the best of any utility company. These findings support what our customers tell us directly; that the vast majority are satisfied with the service we provide.

Our **Customer Transformation Programme** is revolutionising our customer service proposition, optimising current customer interactions and providing our customers with timely access to job status information via their channel of choice. The programme has a number of constituent projects including a new website, an integrated single view of the customer, and end-to-end case management.

We have redesigned and **re-energised our approach to engagement with our Developers and Self Lay Providers (SLPs)** to create a closer working relationship and to embed engagement across all of our customer groups. We have a clear understanding of the priorities and perceptions of this customer group through annual surveys, the Water UK survey and also bespoke research. We applied this understanding to prioritise improvements including establishing Market Engagement Days to bring together Developers and SLPs to build relationships, communicate information, and receive feedback.

We engage extensively and regularly with the retailers we serve. Since the opening of the retail market in April 2017, we have implemented a continuous and **tailored engagement strategy with each of our retailers** in line with their individual needs and requirements. Day-to-day engagement takes place through a dedicated account manager with a direct line, email and access to our retailer portal to provide a continuous feedback avenue. Recent significant improvements to our retailer portal include:

- A new function which pre-populates request forms from retailer systems, saving retailers time and minimising the risk of error.
- A GIS mapping system providing detailed information on the location of mains.

We also carry out regular surveys to measure our retailers' perception of the service we provide.

We are taking a lead in ensuring that the business retail market works for all market participants, using our technical expertise to help improve transaction arrangements.

Spotlight on customer satisfaction

Bristol Water has been named the best water company for customer service in 2018 by UKCSI. The Institute of Customer Service Customer Satisfaction Index also shows that we are the most trusted in the utility sector, the top performing water company and among the top three of all utility companies for customer service.

Mel Karam, our Chief Executive, said: "This is a fantastic result and testament to our teams which work tirelessly to ensure we provide the best possible customer service. We know we don't get it right 100 per cent of the time, which is why we haven't hit the top spot for utilities. But we're determined to get there, which is why, as part of our business plan, we're setting out a target of being the top performing utility company."

Ben Newby, Chief Customer Officer, said: "We've been looking at what our customers need and how easy we make it for them to contact us and resolve their issues. We're increasing the amount of proactive information customers have at their fingertips, we've refreshed our website based on what our customers want and, most we're putting our customers' thoughts on what they want from us right at the heart of our future plans."

We recognise however, that there are a number of measures of customer service and we use a wide range of information to continue to identify areas of improvement.

Our performance as measured by the Consumer Council for Water in its 2018 CC Water Matters Report was amongst the best in the water

industry. The overall level of customer satisfaction was 95%, the second highest in the industry and we had the highest scores for reliability of supply (99%) and satisfaction with colour and appearance of tap water (97%). Across the suite of measures, our performance improved in comparison to the previous year.

Our performance against the Service Incentive Mechanism has historically always been within the upper quartile for the industry. Last year our performance dropped to average because of the large number of customer contacts associated with a few unusually large events, including the boil water notice in Clevedon and the burst at Willsbridge. After each major incident we have undertaken a review and fed the lessons learnt into operational improvements.

Spotlight on Willsbridge burst

Late in the evening of 18 July 2017, our sensors detected high flows through a pipe in Willsbridge. A burst main was confirmed within an hour and by 2am on 19 July, a major incident response had been launched. Our Communications team was on 'incident alert' for 24 hours to allow social media channels to be effectively monitored and customer interactions proactively managed.

In total, the burst caused 35,000 properties to lose supply, with only 14,000 still without water by 7am on 19 July. This was because our resilient network enabled us to rezone to supply customers from a different route. Five temporary water supply locations enabled those customers who remained without supply to take as much water as they needed. They were staffed by Bristol Water employees, who also gave customer updates.

All properties had supplies restored by 5:30am on 20 July. We surveyed affected customers and found 62% very or fairly satisfied with how we handled the burst. More than 6,995 customers received support from staff or through social media.

Building on feedback from this event, we believe we can do better by focusing more on customer impacts when restoring supplies and cascading this information more effectively. We now have separate customer from media communication resource during incidents as a result.

Spotlight on excellence to retailers and property developers

Although we no longer provide retail services to business customers (having exited the new business retail market to Water2Business when it opened in April 2017), we still aim to give a great experience to business retailers and their customers through our wholesale services. For example, when their customers want to switch suppliers, or keeping them informed about services impacting their customers.

We also work to ensure that property developers and water infrastructure providers competing in our area get the services they need from us. Our aim is to provide choice by giving them the right information and range of services.

We have been amongst the top performing wholesalers in providing quality data and responsive services to retailers according to data published by the market operator, MOSL.

The Customer Transformation Programme and IT investment in our plan will improve the services to developers and retailers, and provide them with new information and service portals to facilitate both the quality of service and market choice.

For developers, we are working to improve our performance to facilitating competition following our commitments to Ofwat. We are delivering this through our new approach to charging new developments which ensures that developers have certainty of cost and flexibility in how their needs are met.

Our performance commitments for this promise

Customer experience measure

PC Type: Common, new, residential retail control

ODI Type: Financial - underperformance penalty and outperformance reward

PC Driver: Ofwat comparative metric and aim to be leading performer

Description: The customer measure of experience (C-MeX) is a new industry-wide measure of customer satisfaction currently being developed by Ofwat. Ofwat intends to pilot C-MeX in 2018-19 before finalising its design.

Benchmarking: We have generally performed well against the current industry measure of customer satisfaction (the Service Incentive Mechanism), however during 2017-18, our performance slipped and was slightly below average.

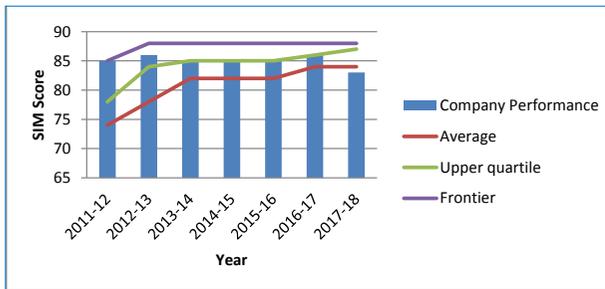


Figure 30: Historical SIM performance

This was primarily due to the number of large operational incidents which we had last year, which resulted in significantly increased numbers

of contacts from customers. Overall we forecast we will be slightly above average industry performance for 2015-2019.

Two years of independent surveys by the Institute of Customer Service rank us as the top performing water company. We also know that 97% customers who return our feedback cards after work is carried out near their homes are satisfied with the service.

Our annual customer satisfaction surveys give a score of 87% in 2017-18.

The results for the Water Matters report published by the Consumer Council for Water in July 2018, show that we outperformed the industry average on nearly every measure and have overall satisfaction levels of 95%.

Our targets and incentives

As the industry metric is currently in development, we have set ourselves the target of being the top performing utility in the UK Customer Satisfaction Measure by 2025, as a proxy. In the long-term, our ambition is to be within the top 10 of all companies in the index (among the likes of Amazon and John Lewis).

Incentives for C-MeX are set by Ofwat, with outperformance incentives of up to 1.2% (c£1.1m) of residential retail revenues per annum, increasing to between 1.2% and 2.4% (c£2.2m) of residential retail revenues per annum for exceptionally performing companies (expected to be assessed using UKCSI) and underperformance incentives of up to 2.4% per annum. Incentives will

be based on our annual ranking in comparison to performance across the industry.

Reason why our target is stretching

We are aiming to be not only the best performing water company, but the best performing utility company for customer satisfaction. Our customer transformation programme will see us having a single view of each customer across our business and allow us to improve the customer experience through our people as well as new technology.

Developer services experience measure

PC Type: Common, new, wholesale network plus control

ODI Type: Financial – underperformance penalty and outperformance reward

PC Driver: Ofwat comparative metric and aim to be leading performer

Description: The developer services measure of experience (D-MeX) is a new industry-wide measure to incentivise excellent customer experience for developer customers. These include small and large property developers, SLPs, and those with new appointments and variations.

Benchmarking: A comparison of Developer Services performance for the water industry is currently made though a quarterly comparison against a range of metrics by Water UK. Bristol Water performs worse than average in comparison to the rest of the industry, although we receive positive feedback from developers and

the challenge we face is a small number of delivery tasks. We also recognise a number of areas where we can improve, which we will achieve through technology by providing a developer portal so the standards of service match those we provide to retailers. Our transformation project for network service delivery will deliver improved performance

Our targets and incentives

As D-MeX is a new performance commitment, we do not yet have committed service level targets. We will set our targets once the measure has been developed by Ofwat.

Ofwat has said that incentives will be based on our annual ranking as compared to performance across the industry. Outperformance will be up to 2.5% and underperformance penalties will be up to 5% of developer services income (c£0.1m p.a).

Reason why our target is stretching

We aim to be the top performing water company for all customer experiences, which includes developers.

Our plans for 2020-25 and beyond

To deliver against our **C-MeX** performance commitment we will continue to deliver our transformation to:

- Make it easier for our customers to find out what they need from us by offering multiple channels and self-serve options. This will allow them to find out what they need to know at a time that suits them.
- Make sure customers understand our delivery against performance commitments so they are happy that their money is being well spent.
- Strive to continue to be the most trusted utility company
- Equip our employees with the knowledge and technology they need to provide great customer care through all our customer channels.
- Invest in new technology to give our staff the information and systems we need to ensure we consistently meet the timescales we have promised our customers.
- Invest in our digital technology so our customers can access information at a time of their choice.
- Work with other utility companies and local councils to reduce the impact that roadworks have on traffic disruption in our supply area.
- Make improvements to our billing system to help us to identify if our customers need any of the additional services which we offer. Use data to improve our service, like sharing our street works information with third parties so

customers can see the impacts of our work on traffic and plan accordingly.

As the final design of C-MeX has not yet been published, long-term projections have not been set for this performance commitment at this time.

We have however included information in our long-term ambition document, **Bristol Water...Clearly**, published in February 2018. This included our proposed performance commitments, 2025 forecasts and 2050 forecasts. We framed our long-term ambition in the context of proxy measures, such as the SIM and the UKCSI.

To succeed against our **D-MeX** performance commitment, we will:

- Ensure developers are able to get everything they need from us via our online portal. We will be responsive and help them to get the job finished quickly. We will continue to simplify processes and make technology improvements to make complicated tasks as effortless as possible.
- Meet industry developer service standards
- Improve the transparency and certainty of our developer charges – ensuring that developers are aware of the full range of market choices available to them

Promise: inclusive services - meeting the needs of customers in vulnerable circumstances

Our customers' views



What matters the most to our customers

We play a key role supporting customers that may be in vulnerable circumstances and ensuring everyone has access to the water they need. We work with stakeholders in the community to offer support services and where we have a close working relationship, stakeholders are generally happy with the support we provide. We are expanding the scope of how we view vulnerability, recognising that it varies for each customer and with events over time. There is an opportunity for us to collaborate more closely beyond financially focused stakeholder groups (such as groups who work with people with sensory deprivation, or mental health issues).

Our customers value honest and transparent communication, and regular updates. When we asked our customers about how well we support them in difficult circumstances, for example during supply interruptions, they told us that they need more notice for such events and a clear sense of how long the interruption may last. They requested delivery of water directly to the most vulnerable within a few hours. We also seek to

ensure information reaches people who may not have access to our normal communication channels.

Customer feedback on our draft business plan

When we presented our draft *slower, suggested* and *faster* business plan trajectories to our customers, 64% chose investment levels beyond those of the *slower* plan, and often mentioned vulnerability as a reason for their choice, seeing it as a worthwhile investment. Some of our most engaged customers questioned whether our proposed performance commitment of 'satisfaction' was the best measure for how much we are doing to support vulnerable customers. They suggested an alternative metric based on the number of customers helped. We believe that the satisfaction measure is valuable, because it captures how well we performed, not just how many customers we helped.

In general, the most popular alternative plan (49% support among our customers) was the *suggested plan*, despite the additional cost.

Twice as many customers supported the *faster* plan for inclusive services as compared to those that supported the *faster* plan for customer experience (15% versus 8%). Future customers, affluent customers and rural customers all supported higher levels of help for customers in vulnerable circumstances. "Safely affluent" customers were more likely to select the *faster* improvement plan for vulnerability assistance, while "social renters" were more likely to select the *slower* plan.

In our final plan acceptability testing, in the context of both comparative information and the proposed bill, 77% of customers agreed with our plans to improve vulnerable customer satisfaction and only 3% disagreed.



Figure 31: An extract from our Vulnerability Action Plan

What we have achieved so far

We understand that our approach to helping customers in vulnerable circumstances needs to be personalised to meet the needs of each.

Using our joint billing arrangement with Wessex Water, we are able to offer a joined up approach to vulnerability assistance through a single Priority Services Register (PSR), which is our register of vulnerable customers

We use our Priority Services Register to **offer a range of additional services to support customers who need them**. This includes support which ranges from providing communications in Braille, large print or a language other than English, to extra assistance in the event of water supply interruptions.

Around 4,000 (less than 1%) of our customers are currently listed on our Priority Services Register and they tell us that in general, their experience of it is positive. Notwithstanding this benefit, we need to do more boost the number of our customers that receive this service. Our research tells us that many customers would benefit from additional support but are not yet registered.

We work jointly with Wessex Water through our Vulnerability Action Plan (VAP). One of the aims of the group is to engage with relevant third party organisations across the full range of factors linked to vulnerability. Establishing relationships with these organisations - which include national organisations and local community groups such as charities, councils, social services, supermarket

pop-ups, advice centres, health professionals and specialist schools - has the potential to improve our access to customers in vulnerable circumstances in order to offer them support, and simultaneously makes it easier for customers to self-register their vulnerability.

We also participate in promoting the vulnerability assistance available with other utility companies, such as Western Power Distribution. We respect personal data and have a strong data compliance programme, in line with GDPR regulations. These regulations can limit data sharing but we work with others to address this issue.

Spotlight on: engaging customers in vulnerable circumstances

Our research on customers in vulnerable circumstances provides an example of how we have tailored our approach to engaging our hardest to reach customers. The research was conducted in three phases including interviews with:

- Key Bristol Water staff who are involved in activities with third party stakeholders and vulnerable audiences.
- Key third-party stakeholders including charities, consumer interest groups and other organisations who exist to promote the needs of customers in vulnerable circumstances.
- 18 in-home or in-venue paired in depth interviews, each comprising one customer who is in vulnerable circumstances, together with a

trusted friend, family or carer – who may also be in vulnerability.

This approach is most appropriate because it is less intimidating for respondents to meet a researcher in their own home or at a neutral venue of their choice and to be accompanied by a trusted person. The in-depth interviews provided the time and focus to really understand the lives of these customers in detail to that we can understand how we can best meet their needs.

Case study: Clevedon boil notice

In early 2018, we had to issue a precautionary boil notice to customers in the Clevedon area. We provided bottled water to everyone on our Priority Services Register.

We decided to ask customers on our PSR how satisfied they were that their needs had been met during our response.

- 27% were fairly or very satisfied
- 73% were neutral
- No customers expressed dissatisfaction

This indicates that there remains some work to do and that achievement of 85% customer satisfaction among those who are receiving assistance is both challenging and ambitious.



Spotlight on: vulnerability initiatives

We use a Priority Services Register to capture the additional needs of customers in circumstances which make them vulnerable. We offer additional support to customers when they are affected by an operational issue, as well as providing tailored methods of communication, such as bills in brail or minicom services for those customers with impaired hearing or speech difficulties.

We have been part of an initiative to sign-post our vulnerable customer services with the energy sector – through Western Power Distribution. We plan to expand our partnership working using technology to improve our vulnerable customer services.

Metering can help many customers with the affordability of their bill. Our recent ‘Beat the Bill’ campaign is a way for households to see if they could save money on their water bill if a meter was fitted. As part of this campaign we install a water meter so we can tell customers exactly what the difference between their current bill and a metered bill would be. Customers can then have the choice to switch to a meter, or if they want to carry on with their existing billing, they don’t need to do anything.

Our performance commitments for this promise

Percentage of customers who are satisfied with the vulnerability assistance they have received

PC Type: Bespoke, new, residential retail control

ODI Type: Reputational

PC Driver: Customer support for supporting the vulnerable and improving satisfaction

Description: This performance commitment measures the percentage of customers within our supply area receiving vulnerability assistance who are satisfied with the assistance given. It will be based on an annual survey of customers.

This is a new performance commitment for AMP7 and reflects Ofwat’s requirement for water companies to include at least one bespoke performance commitment addressing vulnerability in their business plans. Our commitment was the one most favoured by our customers and stakeholders.

Benchmarking: As this is a new measure, comparative information for the industry is not available, nor is historical information within Bristol Water. We do know however, that the percentage of our customers registered for our priority services is low in comparison to other companies.

Our targets and incentives

Our target is set based on our aspiration to exceed current levels of satisfaction from our general satisfaction survey by c5%.

Our long-term ambition is to achieve a 100% satisfaction rate amongst our vulnerable customers.

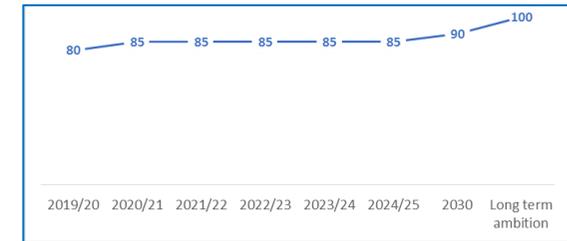


Figure 32: Percentage of Customer who are satisfied with the vulnerability assistance they have received

This performance commitment has a reputational ODI based on the feedback that we received that customers would not understand the logic of incentives in this area that had an impact on customers’ bills. There is a strong reputational incentive to achieve or outperform our performance commitment levels because we report how well we are doing in our Annual Performance Reports. The reports are publicly available on our website, which enable our customers and the Bristol Water Challenge Panel to hold us to account on our performance. We also report via an interactive performance webpage, where our customers can learn about our reputational and financial performance commitments.

In addition to our bespoke vulnerability performance commitment, we will also report our performance against the following metrics:

- Percentage of customers aware of the non-financial vulnerability measures offered
- Number and percentage of customers on priority service register (PSR)
- Number of customers receiving the following services through the SAR/PSR:
 - Support with communication.
 - Support with mobility and access restrictions.
 - Support with supply interruption.
 - Support with security.
 - Support with 'other needs'.
- Percentage of customers satisfied that the services provided are easy to access.
- Percentage of customers on PSR contacted over the past two years to ensure they are still receiving the right support.

Reason why our target is stretching

Results from the July 2018 UK Customer Satisfaction Index survey, the UK's largest cross-sector benchmarking study, showed that the all-sector average satisfaction is 77.9 (out of 100) and the utilities sector average is 74.4. We believe a reasonable stretch beyond this for the services we provide to vulnerable customers is 85% satisfied customers, with a long-term ambition of 100%.

Our plans for 2020-25 and beyond

To succeed against this commitment, we will:

- Treble the number of customers we support through these additional services, providing support to an additional 8,000 customers, while making sure that the experience that we offer is the best of all the utility companies.
- Carefully share data with other utilities to help us to identify customers who may need additional support, at times in a way which respects privacy and legal obligations. We plan to expand our innovative partnership with Western Power Distribution to sign post our vulnerable customer services through the energy sector.
- Increase our promotion of the support we make available, working with community groups to achieve this.
- Increasing awareness of the support available for customer, encouraging them to “spread the word”.
- Ensure that customers who are registered for our extra care services receive tailored information.
- Taking a customer rather than asset view of operational events, and through our transformation project using our innovative approach to integrating systems with our supply chain to meet customers' individual needs. This will develop for the long-term by tackling inclusive services beyond water, developing an integrated approach to tackling social vulnerability, for instance through the Bristol “One City” initiative.

Promise: affordability for all

Our customers' views



What matters the most to our customers

We recognise that affordability is a major concern for some of our customers and we were one of the first water companies to introduce a social tariff. We know from talking to our customers, that helping customers who struggle to pay their bill is important. To help us to understand how we can improve the support that we already offer, we visited a number of customers who receive extra support. They told us that once they had made contact with us, their overall experience was positive and we were easy to work with. However, we know from wider research that our customers feel that more could be done to raise awareness of the help we do provide.

We know from our discussions with customers that treating customers fairly is important to them. They encourage Bristol Water to help those who need assistance with their bill and to reduce the number who are not paying for other reasons, such as through properties incorrectly registered with us as empty, or “void”.

Customer feedback on our draft business plan

When we presented our alternative *slower*, *suggested* and *faster* business plan trajectories to our customers, 74% agreed that we should support customers who cannot afford their bill. In addition, 82% said we should encourage customers to pay what they can afford towards their bill.

We asked customers about social tariffs and whether we should maintain the current level of cross subsidy, or whether we should support more customers. Over half of customers agreed with an increase in bill to support 75% of those who could potentially benefit from social tariffs (an increase from the current 50% of customers supported). When asked whether we should support all customers through social tariffs, with a corresponding bill increase, 42% of customers agreed.

Safely affluent customers and comfortable families are more likely to choose the *faster* option, while thirsty empty nesters have a lower level of support for all options.

The importance customers place on value for money can be seen in the qualitative responses to the customer survey and consultation. In the customer survey, lower bills were the most commonly raised issue. Value for money was the second most commonly raised issue across each of the outcomes. Customers who preferred the *slower* plan often suggested there was a need to minimise bills, while customers who support the

suggested or *faster* plans argue that they would provide good value for money.

Customers also sometimes indicated that they preferred the *slower* plan for issues which they nonetheless consider as high priority. This can be seen in the responses to proposals for leakage, water use, water appearance and water taste and odour. We consider this to be indicative of the importance of cost and value for money to customers.

Based on our customer data, we concluded that **the final bill level should be no higher than that in the *suggested* plan**, and a plan which has a lower bill level is likely to be accepted by more customers – particularly in low-income groups.

This was a key driver for the financing cost and efficiency assumptions made by the Board in developing this plan. In return for this lower cost for all, we also considered how financial risk and return could be balanced with up-front bill reductions.

What we have achieved so far

We already offer what we consider to be industry-leading support to those customers who struggle to pay their bill, including **discounted bills through 'social tariffs' and debt management support**. We have a total of c13,400 customers receiving assistance through one of our three schemes, an increase of 36% over the number in 2017 and nearly double the number five years ago.

This year we are expanding access to social tariffs, to those who receive a bill via a third party rather than directly from us, such as those in supported accommodation.

To reach out to more customers in need of financial assistance, we work jointly with Wessex Water to partner with a number of charities.

Our primary aim is to keep our customers' bills as low as possible while still delivering the service improvements they want. We plan to do this by identifying new ways of working which save money without compromising service.

Spotlight on: sharing knowledge

We aim to make our bills affordable to all and our services accessible to all, including for those customers who are in circumstances which make them vulnerable, even if just temporarily.

To effectively reach out to customers in need of financial assistance we work jointly with Wessex Water to partner with a number of charities. Our support is offered as a wide range of options when the charities help customers with their finances.

Spotlight on: our social tariffs & support options

Metering – having a meter is one of our primary options for lowering bills and is offered in combination with water saving advice. Our 'Beat the Bill' campaign is a way for households to see if they could save money on their bill by using a meter.

Flexible Payment Plans – these plans allow customers to have a short payment break. This may be needed for example, when circumstances unexpectedly change, possibly due to a bereavement or poor health.

Payment Schemes - we offer several schemes which allow payment directly from benefits.

- **WaterSure Plus:** this caps the bill for customers who are low income and high usage - the cap is higher than the national minimum.
- **Assist:** a range of low rate tariffs which vary with the customers' ability to pay.

- **Pension credit tariff:** a bill discount of around 20% for customers in receipt of pension credit.

Restart Scheme - for customers in debt and that are ready to start making ongoing future payments, we run a two-year payment plan designed to cover current usage, with old debts written off as contributions are made towards them. We target support through www.moneyadvicewest.org.uk with a range of face to face, online and telephone independent advice available.

Performance commitments for this promise

Percentage of customers in water poverty

PC Type: Bespoke, retained from AMP6, residential retail control

ODI Type: Reputational

PC Driver: Achieving best ever level of performance

Description: Our water poverty performance commitment we will track the percentage of customers whose water bill represents more than 2% of their disposable income, defined as gross income less income tax.

This measure allows us to understand the impact of our bills on our customers by estimating income in relation to bill level. It also allows us to evaluate the success of our tariffs and assistance schemes for customers who are experiencing difficulty paying.

To calculate the measure, we use a population analytics model (CACI) to estimate the gross percentage of customers in water poverty, and then deduct those customers who we support through our Assist social tariff.

Benchmarking: As this is a bespoke performance commitment, comparative information from across the industry is not available. We have therefore considered our historical performance to date when proposing our future targets.

In 2017-18 we achieved zero customers in water poverty.

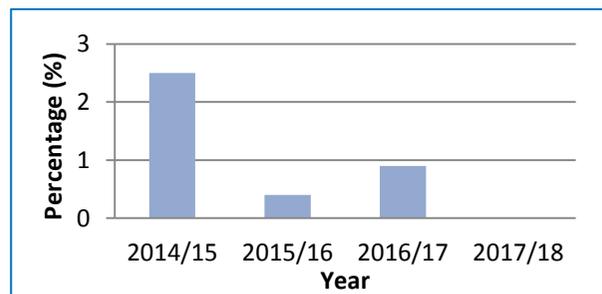


Figure 33: Percentage of customers in water poverty

Our targets and incentives

We have set the target at zero, maintaining our current level of performance.

Based on the views of our customers and stakeholders, we have set this as a reputational ODI. We also note CCWater’s support for a reputational incentive for this type of performance commitment.

Reason why our target is stretching

We have set the target to the best level of performance which can be achieved based on our definition of water poverty, which is the best calculation based on currently available data.

Percentage of customers who think we provide good value for money

PC Type: Bespoke, retained from AMP6, residential retail control

ODI Type: Reputational

PC Driver: Customer satisfaction and achieving best level of performance

Description: Our value for money performance commitment tracks the percentage of customers who consider that we provide good value-for-money based on annual survey of 1,000 customers.

This measure tracks the percentage of customers responding to our annual household customer tracking survey who consider that we provide good value-for-money, by either responding ‘very good’ or ‘good’, after being asked the question ‘thinking about value for money, overall how would you rate Bristol Water in relation to the service they provide?’ The survey would be conducted by phone, using a sample size of 1,000 customers who may or may not have contacted us.

As this is a bespoke performance commitment unique to Bristol Water, comparative information from across the industry is not available. We have therefore considered our historical performance to date when proposing our future targets. This shows that we exceeded our target by one percentage point in 2016-17 but were below our target by three percentage points in 2017-18. Our average performance since 2014-15 is 71%.

Our targets and incentives

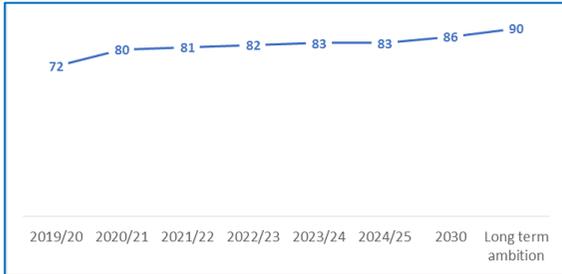


Figure 34: Targets for value for money PC

Reason why our target is stretching

The level of stretch in our performance targets has taken into account our historical performance. At PR14 our target was to improve satisfaction by 2% from the starting level of 70%. We are changing to an annual perception survey to include all customers, rather than customers who have contacted us. This is closer to the survey approach used by CCWater, which currently shows a higher level of performance. Therefore we expect to hit 79% in 2020 with an increase to 83% by 2025.

As this performance commitment has a reputational ODI there is no impact on our customers’ bills. We note CCWater’s support for a reputational incentive for this performance commitment.

Percentage of void households

PC Type: Bespoke, new, residential retail control

ODI Type: Financial - underperformance penalty and outperformance reward

PC Driver: Ofwat expectation and frontier performance levels. To minimise bills through efficient revenue collection.

Description: Our void household performance commitment tracks the annual average number of household properties within a supply area which are connected to our water supply but do not receive a charge (as there are no occupants) as a percentage of the total number of connected households (the “void rate”).

Our definition for this performance commitment is aligned to the definition of void properties used in Ofwat’s Annual Performance Report guidance.

Our proposed performance commitment covers the residential market. For business customers, it is the responsibility of the retailer to manage void properties. We will however continue to monitor the levels of vacant non-household properties in our area of supply. Both ourselves and retailers have commercial incentives to accurately bill and collect revenue for voids and gap sites, and our engagement with retailers suggested we already perform well in terms of market data quality.

Benchmarking: Our analysis shows that we already have some of the lowest void numbers relative to other water industry companies. Our void rate has been 2.0% on average over the last 5 years. In comparison the water industry upper

quartile is currently around 2.3%. However, we have set ourselves the challenge to reduce voids still further and have set a target of 1.8% by the 2025.

Our targets and incentives

We have set our target of 1.8% by 2025 based on our aspiration to improve our void performance still further – approaching frontier levels for the industry.

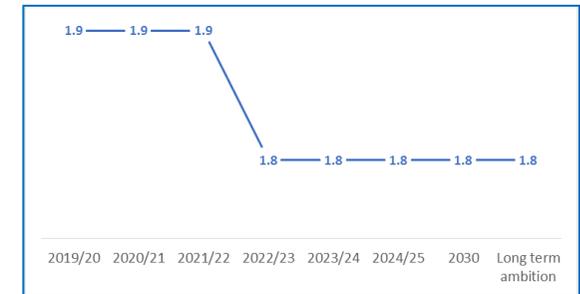


Figure 35: Targets for void households PC

We have set a penalty and reward ODI, illustrated below:

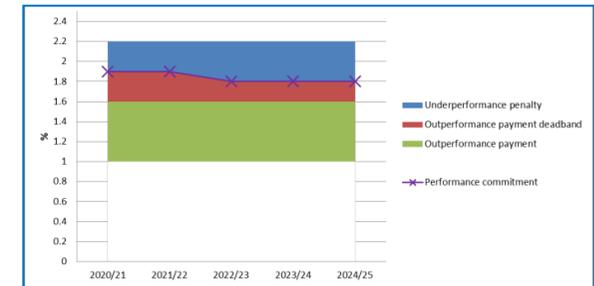


Figure 36: Void households PC ODI profile

Void incentives have been set over a range based on our performance, with a deadband on outperformance payments so small improvements

Our delivery incentives for this outcome

The maximum total underperformance penalty for this outcome is £11.9m, which would equate to around a c£4 reduction per household customer per annum.

The maximum total outperformance reward for this outcome is £11.3m, which would equate to around a c£4 increase per household per annum.

The largest incentive range is for C-MeX, with the incentive levels set by Ofwat.

Performance Commitment	Incentive type	2020-25 maximum under performance penalty £m	Annual bill impact £	2020-25 maximum out performance penalty £m	Annual bill impact £
C-MeX	Penalty only	-10.924	£4.00	10.924	£4.00
D-MeX	Penalty and Reward	-0.695	N/A	0.348	N/A
Satisfied vulnerable customers	Reputational				
Water poverty	Reputational				
Value for money	Reputational				
Void properties	Penalty and Reward	-0.247	<50p	0.066	<50p
		-11.866	£4.30	11.338	£4.20

Figure 39: Outcome delivery incentives summary

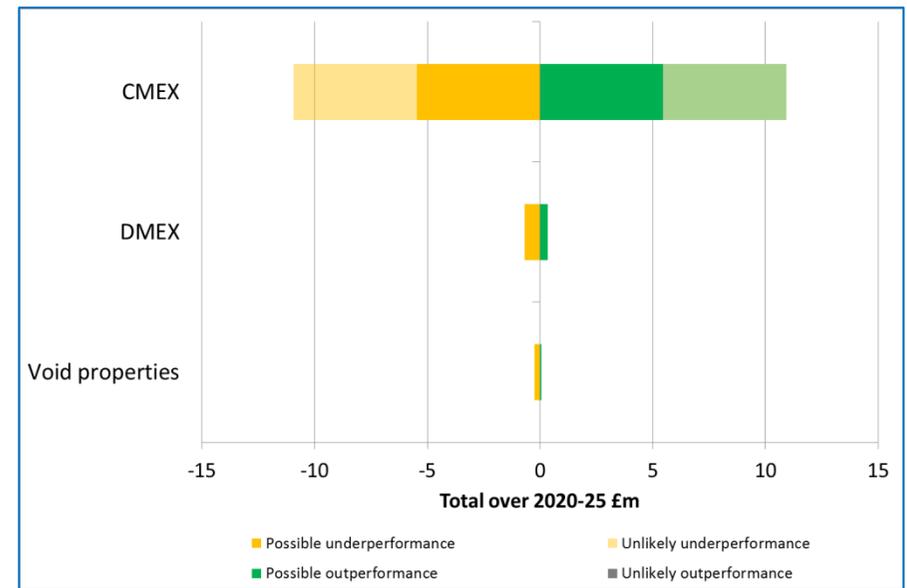


Figure 40: Outcome incentives over 2020-25 in 2017/18 CPIH prices (£m)

8. Outcome 2: Local Community and Environmental Resilience

We will help build local community and environmental resilience. This means that we play an active role in supporting the community, engaging with customers and stakeholders and that we contribute to a thriving and diverse natural environment through our policies and actions. We will save water, and help others to do so.

Introduction

In this chapter, we explain how we will achieve the outcome of **local community and environmental resilience** by delivering on a series of promises that stem from our customer priorities of **'trust beyond water'** and **'saving water'**. We present a summary of customer views, our performance commitments and outcome delivery incentives for the four groups of performance commitments.

Key Messages

- Going beyond our legal obligations to deliver the environmental improvements supported by our customers, with catchment management providing operational and service resilience.
- Establishing a social contact with our communities through **'Bristol Water for All'**.
- Greater water efficiency choice for customers through market platform.



Performance Commitments		
Building Biodiversity and Protecting the Environment		
1	Biodiversity index	£ £
2	Raw water quality of sources	£ £
3	Waste disposal compliance	£
4	WINEP compliance	£
5	Abstraction incentive mechanism	£ £
Community – Bristol Water for All		
6	Local community satisfaction	£ £
Promoting Water Efficiency and Metering		
7	Per capita consumption	£ £
8	Meter penetration	£ £
Reducing Leakage		
9	Leakage	£ £

£ Reputational ODI £ Under-performance penalty ODI
£ £ Under-performance penalty and over-performance payment ODI

Background

To achieve **Local Community and Environmental Resilience** we will implement initiatives to deliver on four promises:

- **Building biodiversity and protecting the environment**
- **Community – Bristol Water for All**
- **Promoting water efficiency and metering**
- **Reducing leakage**

These promises are a reflection of what our customers have told us they value, and the need to meet regulatory expectations. They balance stretching performance with bill affordability and value.

To hold us to account, each of our promises is linked to one or more performance commitments. A total of nine performance commitments will be used to track our progress towards this outcome. Each is also linked to an outcome delivery incentive (ODI) to help ensure that we deliver for our customers.

All nine performance commitments have financial ODIs.

Promise: Building biodiversity and protecting the environment

Our customers' views



What matters the most to our customers

In addition to our statutory obligations and long-term challenges, we recognise that our local environment is directly linked to the quality and quantity of the product that we supply and the wellbeing and health of society. This is why protecting our local environment today and for future generations is at the very heart of local community resilience.

We also have a responsibility to share our assets and estate with our customers, so that they can enjoy the green spaces and make use of our reservoirs for activities such as fishing and sailing. We have found that:

- The majority of our customers recognise the need to protect the environment for the benefit of future generations.
- Our customers generally felt that we have a responsibility to the local community and expressed varied opinions on what this should involve.
- Our customers enjoy using our recreational facilities and would like to see them improved. They recognise the value of our lakes to the local community.

- Some customers fed back that they would like to see improving disabled access arrangements to our sites and also greater provision for family cycling and paddle sports.

Customer feedback on our draft business plan

The majority of customers supported our plans to improve the local environment, with 59% of customers choosing improvement programmes which went beyond the **slower** option. With 22% of customers supporting the faster improvement plan, this was one of the most popular choices for **faster** levels of investment.

Environment was also the factor which appeared to influence customer views when considering the outcome package for Local Community and Environmental Resilience as a whole. There were some polarised views, with some customers saying that the environment was not a concern for them and should not be within Bristol Water's remit. Some customers also commented that they did not understand the biodiversity measure and could not tell whether the proposed improvements were significant. We used this feedback to improve engagement on this topic before our final plan decisions.

There was considerable discussion at the Bristol Water Challenge Panel on the subject. Environmental regulators challenged whether we were being ambitious enough, while we had to identify specific improvements on the limited sites

we manage that our customers would support. Our proposals achieve this balance.

Affordability was also a factor influencing the choice of plan, with Social Renters most likely to choose the **slower plan**.

Our performance commitments help us to establish how well we are achieving our outcomes and delivering on our promises. We have five performance commitments supporting our promise of **building biodiversity and protecting the environment**.

In our final plan acceptability testing, in the context of comparative information and the proposed bill, 72% of customers agreed with our biodiversity plans and only 4% disagreed. Given our bill proposals, those less interested in the environment remain neutral and may accept or trust our plan as a whole.



What we have achieved so far

Our Biodiversity Index approach was established in 2015. Since this time, we have expanded the number of our operational sites and projects adopting the approach, with the aim to leave a positive impact on the natural environment following operational activity and construction works. It has enabled the company to improve its environmental performance, as measured by our Biodiversity Index score.

Activities undertaken include woodland management, tree planting and sensitive ditch and bank reinstatement, to enhance the biodiversity value of our sites.

We are now continuing to develop our approach, to incorporate ecosystem services and social services assessments. This will enable us to assess the benefits that our assets bring to local ecosystems and society. This will support the long-term maintenance of our environmental assets in the same way as we maintain our other assets to ensure that they remain fit for purpose in the long-term.

We intend to continue to increase biodiversity at our sites, actively supporting a resilient natural environment across the region.

The other performance commitments cover:

- Catchment management to remove phosphorus, linked to the Mendip Lakes Partnership, through the Raw Water Quality Index commitment.

- Delivery of our legal obligations to environmental and abstraction improvements, through the WINEP compliance commitment.
- Making sure we run our water treatment works and reservoirs in line with legal obligations that protect water courses, through our waste discharge compliance commitment.
- Reducing abstraction at the environmentally sensitive site at Shipton Moyne during dry spells, using the Abstraction Incentive Mechanisms in a novel way.
- Installed over 1 megawatt of solar photovoltaic (PV) energy generation.

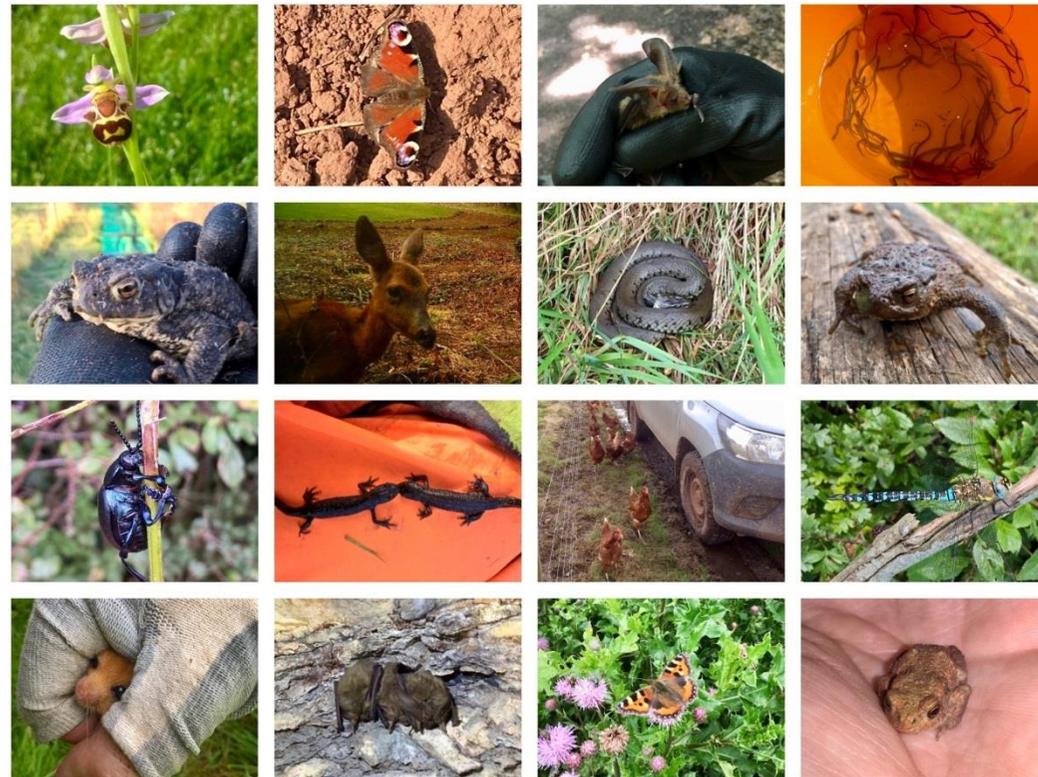


Figure 41: Animals protected along the route of our Southern Resilience Scheme

Spotlight on: climate change

We follow an energy management strategy which adheres to and maintains ISO 50001 standard accreditation for continuous improvement in energy efficiency and therefore reducing greenhouse gas emissions. This is a business strategy which includes monitoring and reporting of energy performance, continuous monitoring and investigation of potential improvements, an open forum for all staff to be able to contribute ideas for improving energy efficiency and developing projects to reduce the impact of the business on the natural environment. We have made improvements in compressor/blower systems operations, pump efficiency controls and have worked on the feasibility of solar PV installation which is still under investigation.

In the future we will continue to work on the delivery of solar PV, continue to target pump efficiency improvements which will include the installation of pump optimisation software to reduce energy consumption and the associated greenhouse gas emissions. We will also develop our natural capital accounting tools to investigate the carbon sequestration of natural assets and use this data to inform habitat management and creation which provide the additional net gains of increase carbon sequestration. Providing environmental net gain enhancements and management of our land holdings will also provide wildlife with increased connectivity and resilience to changes in climate.

Spotlight on: flood risk management

As a water only company we have limited interaction with risk management authorities around flooding.

Our existing assets have been assessed using the Environment Agency Flood Outlines Map to confirm that existing flood resilience investment carried out in AMP5 continues to provide appropriate protection. We are represented on the Strategic Flood Boards of all the major authorities in our supply area.

We will continue to communicate with the Chew Valley Flood Forum around the interactions of our reservoirs with flood risk downstream. The Forum is a community stakeholder on our continued NEP and WINEP Adaptive Management of flows in the River Chew.

Through our catchment work and WINEP investigations we will continue to explore opportunities for implementation of natural flood management approaches alongside delivery of other multiple benefits.

Spotlight on: sustainable fisheries

We have worked with the Environment Agency to deliver on all AMP6 intakes related actions for eel protection, including installation of new screens at Littleton intake and alternative measures in place of screen replacement at the Purton intake.

For AMP7 we have one WINEP requirement to install eel passage at Chew Valley Reservoir. According to EA policy, implementation of the solution is a statutory requirement if we are implementing any other capital solutions on the same site.

We are proud to have received positive feedback from the Environment Agency on the delivery of our eel protection obligations. We have worked successfully with all the stakeholders involved in the regions sustainable fisheries, including the Sustainable Eel Group, Severn Rivers Trust, WWT Slimbridge, Avon Wildlife Trust and Bristol Avon Rivers Trust. Our 'Spawn to be Wild' schools engagement project, which takes eels into local schools, has won environmental awards and helps to raise awareness of conservation issues and water efficiency. We will continue to deliver this programme through AMP7. This is over and above our statutory requirements.

Our performance commitments for this promise

Raw Water Quality of Sources

PC Type: Bespoke, water resources control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Catchment management to drive changing stakeholder behaviours

Description: This performance commitment measures our progress in implementing catchment management to reduce the run off of nutrients into watercourses that damages water quality across our catchments.

The target, measured as kilogrammes of phosphorus not lost to the water environment, is challenging and requires cumulative delivery across a small defined area where there is likely to be a diminishing return on unit effort over time.

Benchmark: This is a bespoke PC and has no external benchmark. We have set our target based on our performance in AMP6 across the Mendip reservoir catchments (Chew, Blagdon and Cheddar), since the Bristol Water Catchment Grant Scheme was introduced.

Our target and incentives

Our target is to reduce phosphate loss by 531 kg over 5 years.

The associated penalty and reward ODI will drive us to deliver catchment management

across not only those safeguard zones defined under the WINEP, but to continue delivery elsewhere, particularly across the Chew and Blagdon Reservoir catchments (including those with previous statutory obligations that have been met).

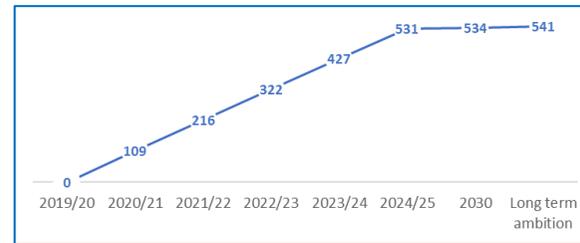


Figure 42: Targets for raw water quality of sources PC

The ODI has been calculated to incentivise delivery of activities which reduce phosphorus in water courses.

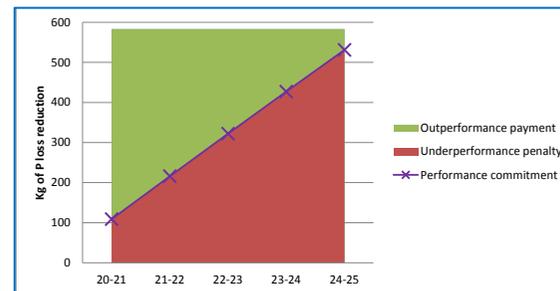


Figure 43: Raw water Quality PC ODI profile

Outperformance rates have been set based on a local Environment Agency study for improving river quality. This calculates a value of £368 per kg of phosphorus removed from a water source. The potential outperformance for early delivery (or up to 10% extra) amounts to £184 per kg of Phosphorus, or a total of

£0.24m over 2020-25. Our costs amount to £311 per kg of phosphorus removed. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £212 per kg of P removed, a total potential penalty of £0.34m over 2020-25.

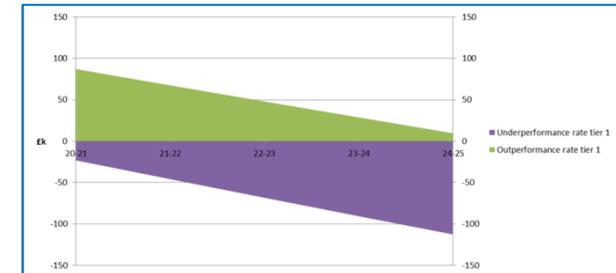


Figure 44: Raw Water Quality PC incentives Profile (£k)

Reason why our target is stretching

The target is challenging and requires cumulative delivery across a small defined area where there is likely to be a diminishing return on unit effort over time.

Biodiversity Index

PC Type: Bespoke, 50% water resources, 50% network plus

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Customer and stakeholder desire to protect the environment for future generations. Government objective of water companies working in a way that delivers wider benefits to natural capital.

Description: Our innovative biodiversity index gives a score for the quality of the habitat that we are responsible for, with ten points being equivalent to around one hectare of high quality habitat.

This PC will measure our delivery of an annual net gain to biodiversity on our sites. This will require work over and above the active management we currently undertake to maintain condition status of habitats, in order that impacts of capital improvements are more than compensated. Our plans include a strategy for maintenance and enhancement of reed bed, woodland, hedgerow and grassland habitats across sites.

Benchmark: This is a bespoke PC and has no external benchmark. Our baseline includes our statutory environmental programme (and will penalise the environmental impact of non-delivery in addition to our WINEP compliance measure), and also includes current delivery

beyond the legal minimum as part of our Biodiversity Action Plan.

Our targets and incentives:

Our target of 17,711 by 2025 is an improvement of 52 points over the five years and is equivalent to around five hectares of high quality new habitat. This target is based on our engagement with customers and their feedback on our draft plans.

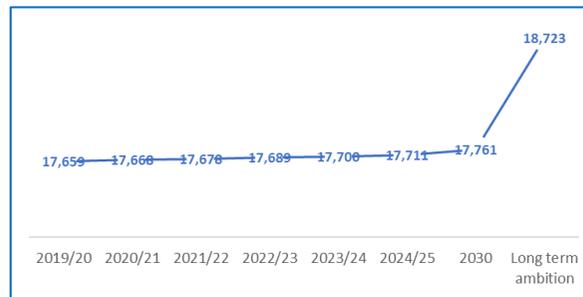


Figure 45; Targets for Biodiversity Index PC

The penalty and reward ODI are based on customer valuations for environmental improvements. The underperformance penalty recognises that the biodiversity index can deteriorate, as well as improve.

Underperformance is capped at the worst historical performance since the biodiversity index was developed. Outperformance collars are based on the faster plan we consulted with customers, which reflected a study into what biodiversity potential could theoretically be delivered.

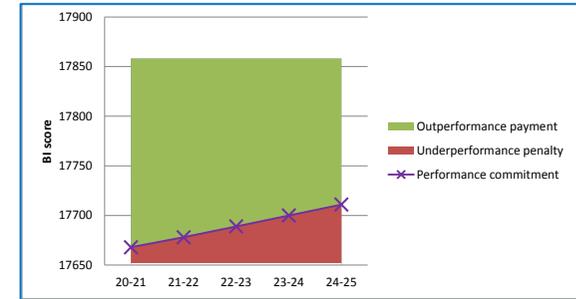


Figure 46: Biodiversity Index PC ODI profile

Outperformance rates have been set based on a third party study into the environmental benefits of habitat sites. This suggests a value of £8,539 per hectare at good biodiversity status, or £854 per BI point. The potential outperformance for early or additional delivery amounts to £427 per BI point, or a total of £0.36m over 2020-25. Our costs amount to £265 per BI point. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £721 per BI point, a total potential penalty of £0.13m over 2020-25. This reflects there are legal (WINEP) compliance penalties for below baseline performance.

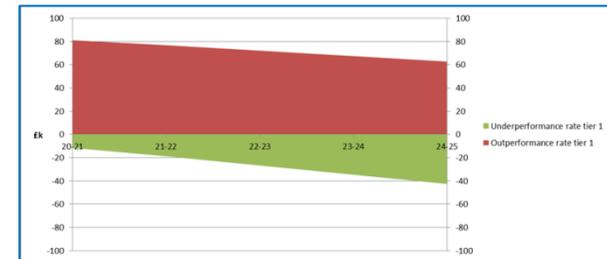


Figure 47: Biodiversity Index incentives profile (£k)

Reason why our target is stretching

Our AMP6 targets were to increase the biodiversity index by around 1 point every year. Our AMP7 targets will increase biodiversity by around 10 points every year. This is a challenging ambition because of the limited opportunities at Bristol Water’s sites that remain available.

Waste disposal compliance

PC Type: Mandatory, water network plus control

ODI Type: Underperformance penalty only

PC Driver: Environmental legal obligations

Description: This performance commitment measures compliance with Environment Agency discharge permits.

Benchmark: As this is a bespoke performance commitment unique to Bristol Water; comparative information is not available. Our 2017-18 internal benchmark was 98.1%. As a legal obligation a target should be set at 100%.

Our target and incentives

The target has been set at 100% compliance:

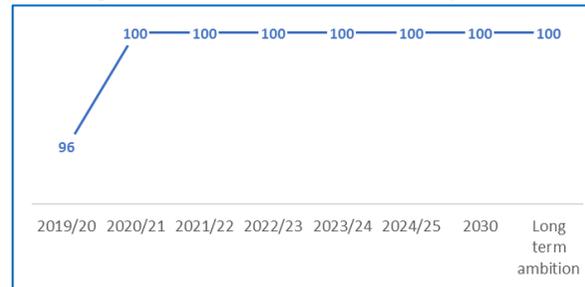


Figure 48 Targets for waste disposal compliance PC

Following the publication of the draft Business Plan, we took advice from our stakeholders, in particular the Environment Agency, who recommended that this metric include a penalty ODI. An underperformance penalty deadband has been included; although our target in AMP6 is to achieve 100%, our baseline has been forecast to achieve 96% compliance:

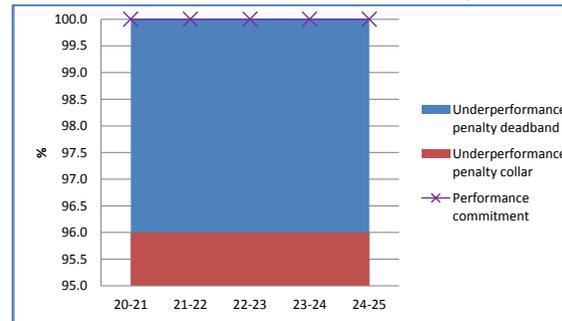


Figure 49: Waste disposal compliance ODI profile

This reflects that we have a consent that has recently been imposed on a fish farm at Blagdon Reservoir, which has not historically been the case. The deadband reflects

uncertainty as to whether the consent will be changed, and to avoid penalising temporary performance issues. The EA can also take enforcement action or prosecute in addition to this outcome incentive if they are unhappy with our compliance performance

The underperformance rate has been set based on our compliance costs of £17k per annum and is £9k per 1% non-compliance. The total potential penalty is £0.04m over 2020-25.

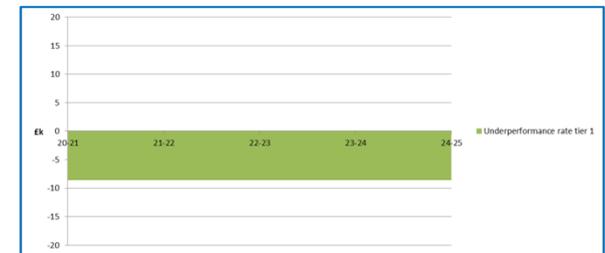


Figure 50: Waste disposal compliance incentives profile (£k)

With a penalty only ODI, we must exceed 96% compliance to avoid a penalty. A collar on underperformance is set at 95% so the penalty applies immediately at below recent performance.

Compliance with the Water Industry National Environment Programme (WINEP)

PC Type: Mandatory, water resources control

ODI Type: Underperformance penalty only

PC Driver: Environmental statutory obligations

Description: The metric will measure compliance with requirements of WINEP around delivery of all of our WINEP requirements. Each of the 51 WINEP actions will count equally and the percentage completion each year will result in an underperformance penalty if the Environment Agency or Natural England are not satisfied that the obligations have been delivered.

The WINEP requirements are:

- Develop a company-wide Biodiversity Action Plan linked to our natural capital accounting tool, the Biodiversity Index.
- Monitor, investigate and mitigate issues around invasive non-native species on our sites and relating to raw water transfers.
- Investigate abstractions which might be causing deterioration under the Water Framework Directive (WFD), and where required consider options to mitigate effects.
- Continue work to reduce effects of our reservoirs on downstream river water bodies to meet WFD objectives.

- Undertake investigations to determine causes of catchment water quality issues and potential to improve raw water quality using innovative approaches.
- Implement programmes of catchment management to improve water quality in certain sources and to maintain condition of nationally designated sites.
- Implement eel protection as required under the Eel Regulations 2009 and according to EA policy.

Benchmark: This is a new indicator. As 100% delivery of legal obligations are required, and during AMP6 us and other companies appear to be delivering all of the quality improvements required, the benchmark appears to be 100%.

Our target and incentives

The target has been set for 100% compliance:

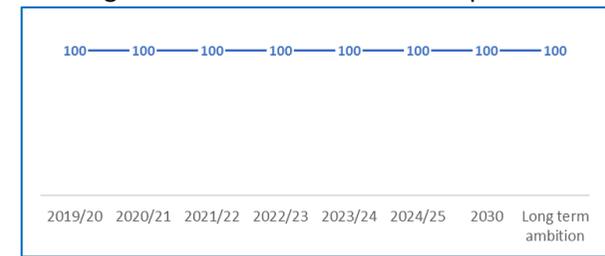


Figure 51: Compliance with WINEP

It is a penalty only ODI, without deadbands:

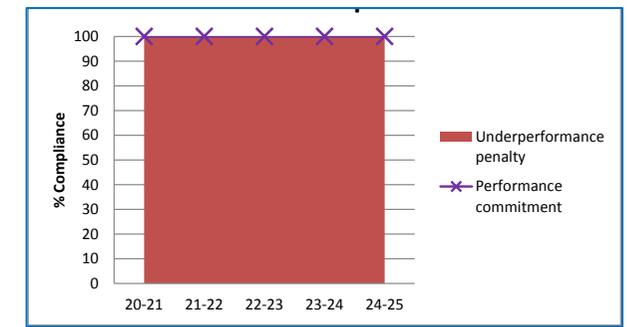


Figure 52: WINEP Compliance ODI profile

The underperformance rate has been set based on 50% of the annual revenue recovery related to WINEP which amounts to £0.4m per annum by 2025, or £4k for each 1%. The underperformance penalty rate of £2k per 1% p.a. produces a potential underperformance penalty of £1m over 2020-25.

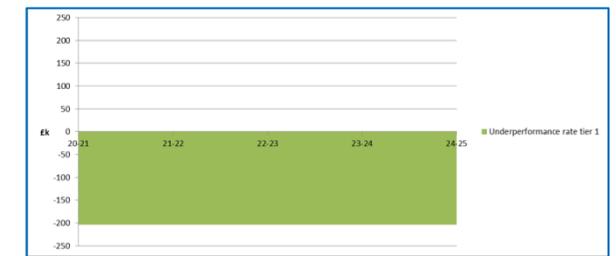


Figure 53: Waste Compliance ODI Incentives Profile (£k)

Reason why our target is stretching

With a penalty only ODI with no deadband, we will receive an automatic penalty if we fail to meet the WINEP requirements.

Abstraction Incentive Mechanism - AIM

PC Type: Mandatory, water resources control
ODI Type: Underperformance penalty and outperformance reward
PC Driver: Environmental regulation and ensuring sustainable abstraction

Description: Performance is measured as the reduction in abstraction during times of low groundwater level.

The metric aims to incentivise reduction in abstraction at Shipton Moyne system (an abstraction linked to environmentally-sensitive sites), see Figure 54, at times where there is a risk of low river flows due to low local groundwater levels.

Benchmark: This is a new bespoke performance commitment for AMP7. The measure is specific to our situation and comparative data does not exist.

Our target and incentives

The targets reflect specific plans for the Shipton Moyne system, which is a specific AIM-type trial for 2020-25. While Bristol Water has not identified any AIM schemes for PR19, we propose to introduce an abstraction management commitment in relation to the effects of our groundwater abstractions at Tetbury, Shipton Moyne and Long Newnton on river flows in the Malmesbury Avon.

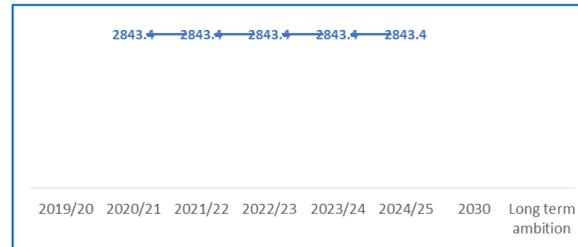


Figure 54: Reduced abstraction from Shipton Moyne

In summary, the proposal is to reduce abstraction from these borehole sources by 0.5 MI/d compared with the historical average 30-day average daily abstraction for these boreholes. The aim is to reduce the impacts of abstraction on the river flows if groundwater levels at the abstraction licence observation borehole fall below a defined level at the start of the hydrological summer (1 April). If this groundwater trigger level is reached on 1 April, Bristol Water will reduce its abstraction by 0.5 MI/d for the whole of that year (to 31 March) in order to help protect river flows.

Specifically, the abstraction reduction will be implemented if the lower groundwater level control curve at the Didmarton observation borehole at the start of the year (1 April) is reached, there would be a reduction in the 30-day rolling mean abstraction by Bristol Water across the whole year to a revised abstraction rate of 7.79MI/d. The AIM measure will act above and beyond the existing work that Bristol Water has done in partnership with Wessex Water, where their abstractions in the Malmesbury area have been identified as causing environmental damage and Bristol and

Wessex are working in partnership to reduce the impacts of the newer Wessex abstractions.

Although there are no public concerns about the abstractions operated by Bristol Water and the cause of environmental impact on the Malmesbury Avon is due to the abstraction carried out by Wessex Water using boreholes that significantly post-date the long-term abstractions carried out by Bristol Water in the area, we are nonetheless committed to working in partnership with our neighbouring companies for the best outcome for the environment and water supply resilience.

We consider that the AIM measure proposed here will allow a significant return of water to the natural environment without leading to any reduction in the resilience of public water supply.

The AIM-style reduction will reduce abstraction during a dry year, where a dry year is defined by the level of water at Didmarton monitoring borehole on 1 April of each reporting year. The measure only triggers in an AIM year, and when it does the following incentive design applies:

AIM	Unit	2019/20 (Baseline)	2020/21	2021/22	2022/23	2023/24	2024/25
PC	MI	N/A	2843.4	2843.4	2843.4	2843.4	2843.4
Underperformance Penalty Deadband	MI		2843.4	2843.4	2843.4	2843.4	2843.4
Standard Underperformance penalty collar	MI		3390.9	3390.9	3390.9	3390.9	3390.9
Outperformance Payment Deadband	MI		2743.4	2743.4	2743.4	2743.4	2743.4
Standard Outperformance Payment Cap	MI		2295.9	2295.9	2295.9	2295.9	2295.9

Table 4: AIM incentive design

Following discussion with the Environment Agency, we have taken an environmental valuation approach for both rewards and penalties, at an agreed rate of £50/MI/day from environmental benefit studies:

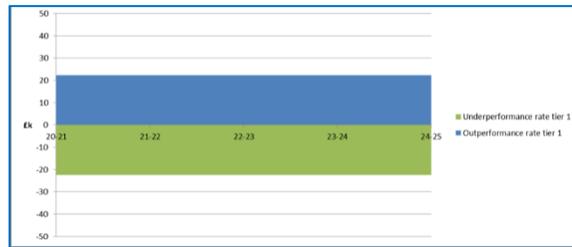


Figure 55: AIM incentives profile £k

Reason why our target is stretching

With an outperformance and underperformance ODI we are incentivised to go beyond the requirements of AIM to deliver additional benefit to the Shipton Moyne system.

Our plans for 2020-25 and beyond

We have developed a programme of interventions to meet and exceed our statutory obligations under the Water Industry National Environment Programme (WINEP). This is summarised in Chapter 5 of this document in the sub-section: *A plan which meets environmental requirements.*

The WINEP itself has been developed through working closely with our Area EA and NE contacts and our proposals will deliver long-term benefits to customers and the wider environment.

In addition:

- We will continue to work on the delivery of solar PV, continue to target pump efficiency improvements which will include the installation of pump optimisation software to reduce energy consumption and the associated greenhouse gas emissions.
- We will also develop our natural capital accounting tools to investigate the carbon sequestration of our natural assets and use this data to inform habitat management and creation, which provide the additional net gains of increase carbon sequestration.
- We are planning to continue our catchment management programme in the Chew and Blagdon Reservoir safeguard zones because we believe this to be the most cost effective and sustainable way to control algae and associated treatment costs, and

infrastructure requirements – these are outside of WINEP. We are working with partners including University of Bath to understand the effects of destratification infrastructure on solubility of nutrients and also to validate the benefits of catchment management approaches.

We have developed ODIs with challenging targets to incentivise delivery beyond our statutory duties and be a company that our communities trust and are proud of.

In the long-term, we expect that the investigations in this period will confirm we are protecting the environment today, with our Biodiversity Index and raw water quality outcomes helping to protect the environment for the future. We may see reductions in abstractions and new environmental requirements in future periods, but there is no clear risk apparent today and any changes would appear to be modest. Similarly, the water resource requirements within the region are also in surplus as we increase metering, reduce leakage and reduce consumption. This is subject to being able to retain our use of water from the Gloucester & Sharpness canal at an efficient price.

Promise: Community - Bristol Water for All

Making a positive contribution to our communities is central to our company vision “Trust beyond water – providing excellent customer experiences” as well as to our mission *to be a company that our communities trust and are proud of; to deliver excellent experiences and create social and economic value.*

There is clearly a significant degree of overlap between all of our outcomes and performance commitments and our contribution to our local communities, in this section we discuss our community performance commitment, which brings all of these elements together by making specific and tangible commitments to our communities, which are overseen and assessed by our stakeholders. This recognises the role that local stakeholders play, on behalf of customers, in delivering long-term benefits to what we deliver for water quality and the water environment, and to the wellbeing of society.

Our overarching commitment is to engage with our local communities to understand their evolving needs beyond water, to assess how and where we can add social and economic value through the services that we provide, and to then deliver initiatives that achieve great community outcomes.

Our customers' views



What matters the most to our customers

Our customers generally feel that Bristol Water has a leading role in the local community. Our work in the community is not given the same priority by customers as service attributes like water quality and reliability, reflecting the view that doing the basics well should be our first priority. Our stakeholders and our customer forum also tell us it is part of what makes us a good company and there is a growing requirement for us to go beyond our role of water supplier.

Customers participating in deliberative research articulated strong views about Bristol Water's responsibility to the local community but had mixed opinions regarding what this should involve. Some participants advocated for educating young people about water and water conservation and working more closely with schools. Our future customers believe that we have a strong role to play in protecting the local environment, and adding value to the local area through employment, sponsorship, and other schemes, but were less interested in more general community initiatives, as the benefit was less clear. We also know that for

some topics like vulnerability the customers we speak to tell us we need to work with other local organisations to have an effective impact.

We provide access to our lakes and other sites for a range of leisure activities – and as many as 66% of our online panel tell us they visit our facilities at least once a year. However, we know that many of our customers don't visit these sites, or clearly link them with Bristol Water, and in general are not aware of the work that we do in the community. When we do talk to them about this, they are supportive and want us to share it more widely

Customer feedback on our draft business plan

Customers had mixed views on this measure, for example at our Customer Summit some customers argued for dropping it as a distraction from the core business of supply, while others supported it as an important element of what makes us different. Customers who supported going beyond the slower investment programme sometimes commented that a specific and demonstrable impact on the community is needed to justify the investment.

Overall, 55% of customers selected the slower improvement plan, reflecting mixed views on this measure. We found that customers found it difficult to visualise the types of activity which would fall into this category of investment and the benefits that they would bring. We found that when we had opportunity to explain this to customers in more detail and



to provide examples of the types of activities which we would support our communities through, they were more willing to support the suggested and faster plans. This is demonstrated through the results from less deliberative forms of feedback, such as our online survey, where customers were least likely to support plans beyond the slower improvement plan.

As part of our consultation, we asked customers if they had any suggestions for our investments in the community.



Just under half of those who made suggestions raised education and awareness on water saving measures, for example suggesting more education in schools or through events and promotion. Some referred to our recreational facilities with suggestions on cycle paths and improvements to facilities, while others referred to continuing the work we do now such as Refill and our water fountains. Some customers said that they wanted greater engagement with customers suggesting presence at local events, surveys and door-to-door conversations. Improved handling of road works was also suggested.

Since the publication of our draft business plan we have further developed our programme of community activity, with specific targets and activity levels. We tested our specific initiatives with customers and 75% of customers supported a plan that included community initiatives, combined with an ODI where stakeholders would monitor delivery, and our communication of what the benefits had been.

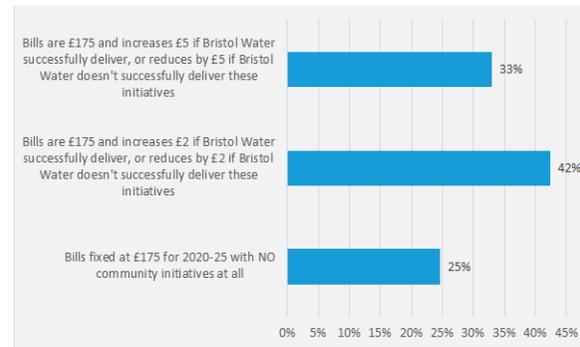


Figure 56 Community incentives research

For customers this reflects the challenge, that in the context of a Bristol Water they perceive as performing well, how we explain what we achieve through our work with community organisations to deal with long term challenges to the environment and society. Our research on customers' views on our key areas of focus and investment included the local community, based on the next 5 to 10 years and beyond.

Customers supported a set of community initiatives and a "social contract" with stakeholders to help ensure that Bristol Water was held to account. From £2 - £5 extra per annum appears justified, but we have used £2

to obtain majority support. Ultimately our final average bill is below the level used in this research, and our final acceptability testing on the final bill profile confirmed the acceptability of the plan including specific testing on the community initiatives.

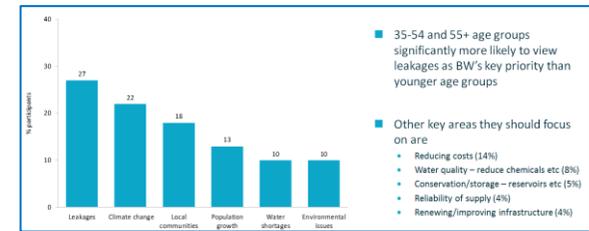


Figure 57: Research results on key priorities

The final telephone survey also confirmed majority customer support for community initiatives. The strong support of the focus groups (and the lower levels of support in less deliberative forums) demonstrates the importance of on-going transparency that an outcome incentive will support.

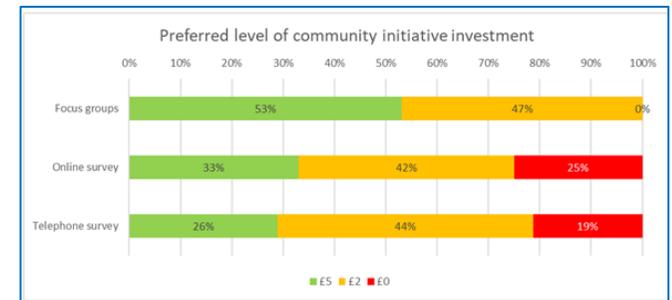


Figure 58: Preferred level of investment in community initiatives

What we have achieved so far

We take great care to recognise the value of our reservoirs, as environmental assets, community assets and water sources. We understand that our estate and the passion of our staff that live in the area that we serve can provide greater value to communities than the important supply of water to the tap.

By example, we were the first to permit sailing on a reservoir, at Cheddar in 1947. In the same decade we also chose to preserve two of the four decommissioned beam engines at Blagdon Pumping Station for community heritage and education purposes.

This proud tradition continues to be at the heart of our brand and ethos. More recent examples include:

- Our innovative Water Bar that has refilled over 45,000 people at local events and festivals for free since it began in 2016. In doing so it has raised awareness of water related topics and plastic waste, as well as directly reducing plastic waste within the community.
- Installation of two water fountains into the centre of Bristol in 2017; one of which delivered 4,000 litres in its first month.
- Increasing recreational opportunity at Cheddar Reservoir from 2017. Partnering with a local community watersports club at Cheddar and with Natural England in 2017 to increase access to 7 days a week seasonally with additional new recreations such as stand-up paddleboarding,

canoeing and kayaking; all while protecting the careful harmony with wildlife at this SSSI.

- Establishing local business partnerships for our two lakeside restaurant operations at Chew Valley Lake in 2015 and 2017 respectively, significantly improving visitor experience at these locations.
- Building a partnership with local authorities, rural networking agencies and Sustrans to propose a recreational walking/cycling trail at Chew Valley Lake; working together to bid for DEFRA regional development funding in 2018.

Our performance commitments for this promise

Local community satisfaction

PC Type: New bespoke, wholesale network plus.

ODI Type: Underperformance penalty and outperformance reward.

PC Driver: Programme driven by aspiration of community resilience and to reflect our innovative delivery approach as a local water company.

Description: This measures the % of stakeholders who are satisfied with our community contributions, and in particular the specific community initiatives that have been developed as part of our business plan.

Our work in the community is a different level of priority to service attributes like water quality, but our stakeholders and our customer forum also tell us its part of what makes us a good company and there is a growing requirement for us to go beyond our role of water provider. Furthermore, customers participating in deliberative research articulated strong views about Bristol Water's responsibility to the local community.

We propose to measure the delivery of our community programme through surveying our stakeholders, who have close links with local community groups. Part of the process includes

oversight by the Bristol Water Challenge Panel to agree changes to the initiatives as required.

Benchmark: This is a new bespoke performance commitment for AMP7. As this is a new bespoke performance commitment for PR19, neither historical nor comparative information is available. However, we have a baseline from our current stakeholder survey, although this does not focus on specific initiatives, but it does provide an appropriate benchmark.

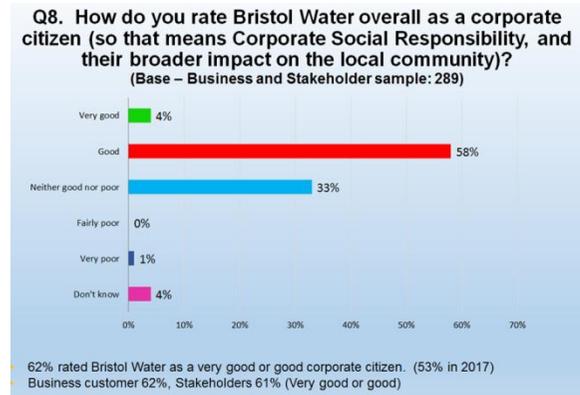


Figure 59: Research results on Bristol Water's performance as a corporate citizen

Our target and incentives

We have set ambitious targets based on our current measure of stakeholder satisfaction, where we are achieving levels of 61%. Our proposed delivery incentives are set so that levels of satisfaction below 85% would receive a penalty and levels above would receive a reward. This reflects the benefit of the specific initiatives that we are proposing above a 75% base, which early progress on this aspect of our

business objectives (such as Resource West) is designed to achieve by 2020.

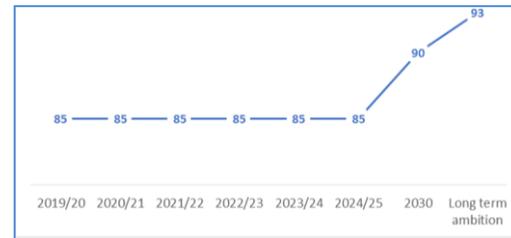


Figure 60: Targets for local community satisfaction PC

The overall ODI design and performance commitment targets are presented in the chart below:

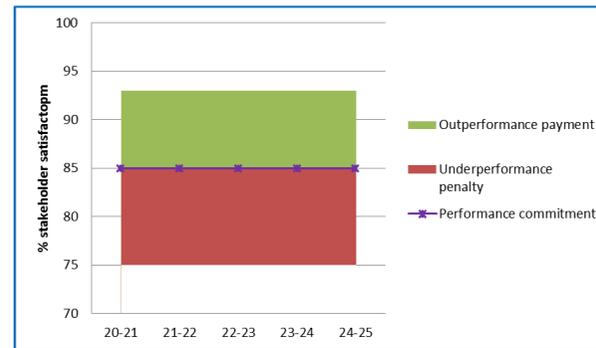


Figure 61: Local community satisfaction ODI profile

No deadbands have been proposed for this performance commitment. Caps and collars have been included for this performance commitment. The cap reflects the level of performance over which we are promoting these initiatives, as over a wider range would dilute the incentive (and below 75% our re-investment through "Bristol Water for All" of the company specific cost of debt adjustment

kicks in, alongside our UKCSI rating component).

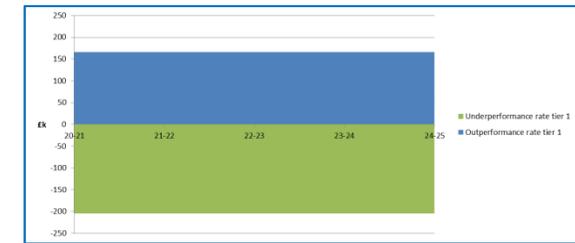


Figure 62: Local community satisfaction incentives profile (£)

Outperformance rates have been set based on the customer survey response of a median WTP value of £2, or £42k per 1% improvement in stakeholder satisfaction between 75% and 100%. This calculates a value of £21k per 1% satisfaction each year and a total potential outperformance reward of £0.83m over 2020-25. Our costs amount to £41k p.a. per 1% improvement. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £20k per 1% stakeholder initiative satisfaction p.a., a total potential penalty of £1.02m over 2020-25.

Reason why our target is stretching

Our long-term target is 93% satisfaction and will require Bristol Water to engage actively and encourage positive stakeholder participation. The target is stretching as a concept, and also compared to current perceptions of community (alongside customer) excellence. This ODI is essential to our long-term ambition and efficient delivery.

Our plans for 2020-25 and beyond

The specified initiatives within our business plan for this PC are:

- Our commitment to improving education and awareness of water issues: such as the number of pupils receiving a school talk on environmental matters and water efficiency; or the number of initiatives undertaken as a result of the Bristol Water Youth Board.
 - Our commitment to community leadership: such as the number of new water fountains opened within our supply area, which builds upon the success of the water fountains opened in Millennium Square and Queens Square.
 - Our support for the Bristol Refill campaign;
 - Our academic partnerships, such as our water efficiency test site with the University of West of England.
 - Our contribution to the Bristol City Mayor and West of England Combined Authority Regional strategies. An example includes the Active Roadworks initiative.
 - Our commitment to community engagement: such as the satisfaction with support to the festivals/ community events that the Company has attended.
 - Our commitment to improving our customer experiences and opportunities at our lakes and recreational facilities.
- Roll out the use of the biodiversity index toolkit where we work on land that we do not own.
 - Work with Wessex Water to understand our combined environmental impact and to provide joint billing messages;
 - Work with Bristol Waste on resource efficiency messages.
 - Form an active network on best practice engagement on resource efficiency with west of England utility companies.
 - In expanding and aligning our vulnerability support with Wessex and other utilities.

These commitments are linked to this ODI, but they also form part of our wider community programme. Further information on our community programme is given overleaf.



Spotlight on: our community programme

Our wider community engagement plans result from this delivery of our business plan as a whole. Many of the initiatives are captured in other ODIs, or wider corporate resilience. Together these plans include:

- 90 community benefit projects⁹
- 270 community stakeholder organisations engaged/involved
- £3m invested in lakeside amenities for community wellbeing
- 1.5m leisure visits to our lakeside amenities¹⁰
- 50,000 people refilled from our Water Bars at local festivals
- 15 new community water fountains
- 3000 school children directly involved in our education programmes, such as “Spawn to be Wild” which educates on ecosystems using eels as an engagement and learning experience
- Teaching and learning experiences by aligning local museums and events with a new experience through open days at a refurbished Blagdon Pumping Station museum, which has a working Beam engine and tells the history of Bristol’s water supply

⁹ Community projects that are either directly launched or supported by Bristol Water

¹⁰ Requires successful delivery of proposed Chew Valley Lake Recreational Trail project

- 3 new scientific partnerships with academia, building on Europe’s largest water efficiency test site with UWE
- 30 environmental restoration projects – going beyond WINEP requirements
- A local population directly benefiting from healthier environments
- Together For Good - a targeted series of donations to community projects
- Supporting WaterAid through our community work
- Cross-utility contribution to trebling the number of customers on our Priority Services Register, and a long-term approach to aligning inclusive services across the social and private sector

Engagement is crucial to successful community outcomes, and so is the commitment to delivering tangible initiatives from start to finish. We are business planning for success in this area, and in line with Ofwat’s approach we are proposing an **outcome focussed performance commitment** to drive this success.

The proposed community initiatives for AMP7 delivery are measurable in terms of local community stakeholder satisfaction. The needs and opportunities of our communities will evolve the next seven years, so we will also be ready to adapt our community plans and to create new projects. We will publish a communities and charities policy. This will

address governance and how the community is involved in shaping both our approach and decision-making processes. We will listen to customers and stakeholders, and the Bristol Water Challenge Panel will play a key role in shaping where we focus our efforts to create social and economic value.

We have categorised our community programme into four key themes:

- **Community engagement and partnerships**
- **Community wellbeing and learning**
- **Improving our environment for communities**
- **Charities and customers in vulnerable situations**

We commit to delivering initiatives that benefit customers and communities across all four of these themes. Below we set out how our initiatives will contribute to these themes.

Initiative	Community engagement & partnerships	Community wellbeing and learning	Improving our environment for communities	Charities & customers in vulnerable situations
Water Bar	High	High	High	Low
Refill	High	High	High	Low
Drinking water fountains	High	High	Medium	Low
Together for Good	High	Moderate	Low	High
WaterAid	Low	Moderate	Low	High
Lakeside leisure	High	High	Medium	Medium
Spawn to be Wild	Medium	High	High	Low
Water Industry National Environment Programme	Medium	Medium	High	Low
Biodiversity Action Plan	Low	Medium	High	Low
Blagdon Pumping Station Open Days	Medium	Medium	Low	Low
Youth Board	Medium	Medium	Low	Low
Water Efficiency Test Site – UWE of England	Low	Medium	High	Low
Leadership in societal development & waste reduction	High	Medium	Medium	Low
Vulnerability support	Low	Medium	Low	High

Promise: Promoting water efficiency and metering

Our customers' views



What matters the most to our customers

What matters the most to our customers

Our customers told us that we should focus on reducing how much water is used, before developing new supplies.

- Our customers expect us to be responsible in the way that we deliver our services.
- Our customers are generally supportive of the idea of reducing the amount of water that customers use, being most supportive when this is expressed as reducing wastage rather than curtailing their enjoyment of water. Some customers find the concept of paying more on their bill to use less as counter intuitive. Education on water conservation and working with schools is important to many of our customers.
- Our customers have mixed views on metering, with metered customers most likely to support more metering. A voluntary, rather than compulsory approach is felt to be justified in a region where these measures will deliver sufficient supplies to

meet demand, and there is no appetite for building new resources just in case.

To meet the challenges of the future, we plan to help customers to reduce their water wastage. We plan to provide customers with the information and the tools that they need to do this.

Customer feedback on our draft business plan

With respect to customer usage of water, most customers saw reducing per capita consumption as an important goal and called for measures like education to help customers to reduce wastage of water without limiting their enjoyment of it. There were a few customers who explicitly disagreed, seeing water use as something that they pay for and therefore a personal choice.

When customers were asked to choose investment plans for water efficiency, views were split evenly between the slower improvement plan and higher investment options, 48% of customers supporting investment beyond the slower improvement plan for water efficiency. Social Renters are most likely to choose the slower plan whereas Safely Affluent customers tend to favour the faster plan.

In our final plan acceptability testing, in the context of comparative information and the proposed bill, 71% of customers agreed with our water efficiency plans and only 6% disagreed.

What we have achieved so far

Metering has been a key component in our strategy to reduce consumption and improve water efficiency.

We have been working to increase metering through the current period and are committed to increasing metering to 65.9% by 2020 and promoting water efficiency as we do.

To date, our meter penetration has achieved a level of circa 53%, which we recognise is slightly behind the industry average of 54% (2017/18 data excluding companies in water stressed areas who are able to compulsorily meter), but voluntary take up has been relatively slow. We have much more to do in promoting water efficiency, as the saturation of existing approaches with metered customers means new gains may be harder to make.

We have consequently launched new initiatives such as the Resource West partnership which will help us take this further as we work in partnership with others to understand how to improve in areas such as water efficiency.

We have also been encouraging meter uptake with our customer focussed initiative 'Beat the Bill' and this also supports our affordability commitments.

Spotlight on: Meter 66

Metering is a key enabler to achieving a reduction in water demand because it provides the customer with a personalised water bill and places their bill within their control. Metered water supplies also mean that we can engage more effectively with consumers about their water consumption because there is a direct financial benefit to customers who are able to reduce the amount of water they use.

We have set up a dedicated project '**Meter 66**' to provide an increased focus that delivering our challenging metering target by the end of AMP6 in 2020. We have increased our metering on change of occupancy and promotion of meters, including providing individual customer information on the benefit to them of metered bills as part of our '**Beat the Bill**' campaign.

Spotlight on: understanding customer usage

We have conducted the largest study in Europe, in partnership with the University of West England (UWE) of customer behaviours in water use in order to guide our activities to promote efficient use of water. We also collaborated with the UWE to gather data on water consumption habits in a student village. This has given us insight into a future generation of water users, who have quite different habits to the current generation. In particular, shower use is significantly higher, with many students having two showers per day.

We have been trialling water efficiency products and ideas in the student village and measuring the impact on water use.

This collaboration has not only resulted in research benefits, but also wider benefits through reduced water consumption.

Case study: Resource West partnership

We are taking a community leadership role for broader issues of resource efficiency and have instigated a new initiative in the form of our Resource West group.

This is a partnership of local stakeholders such as local government, universities, other water companies and energy organisations in order to bring together the shared knowledge and capacity of these organisations and deliver greater gains for local communities in issues such as:

- Water efficiency
- Reducing plastic use
- Energy efficiency
- Local resilience



Our performance commitments for this promise

Per capita consumption

PC Type: Common, 50% wholesale network plus, 50% residential retail

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Ofwat comparator measure

Description: This is a measure of the average household water usage per day. It provides a direct indication of the effectiveness of our efforts to encourage efficient use of water by our customers

At 144 l/prop/day, Per Capita Consumption (PCC) is currently at around average levels for the industry (143 l/prop/day). Our performance commitment of 136.4 l/prop/day by 2025 (as a three year average) will take us to near the current upper quartile level of 136 l/prop/day. The upper quartile level reflects compulsory metering programmes within other companies.

Benchmark: Historical performance and industry comparative performance see [Figure 63](#).

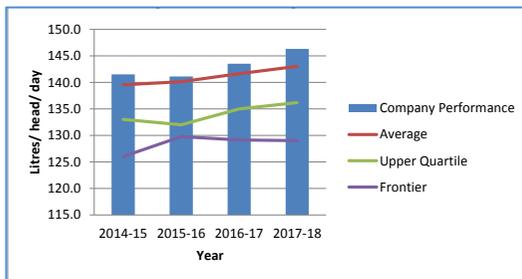


Figure 63: Historical performance for per capita consumption

Our target and incentives

Our targets are not set at the upper quartile level because this metric is heavily impacted by metering and we cannot use compulsory metering (because we are not in an area designated as being water-stressed). Customers also wanted a long-term and voluntary approach, with delivery phased as the saving would reduce bills.

The targets that we present are our own current measurement, rather than reflecting leakage shadow reporting which will be used to update these targets for our 5% proposed reduction in usage over 2020 to 2025. Our annual targets are shown below, which for 2020 to 2025 reflect our annual Water Resource Management Plan commitments:

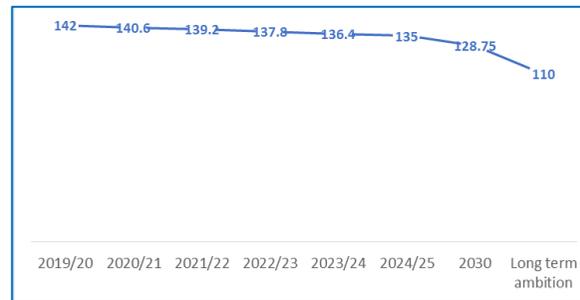


Figure 64: Targets for per capita consumption PC

The proposed penalty and reward ODI does not include an underperformance deadband so that (based on three-year average performance) a penalty will automatically be due if the target is not met. An outperformance deadband has been proposed in recognition that our targets are not at the forecast upper quartile level of performance.

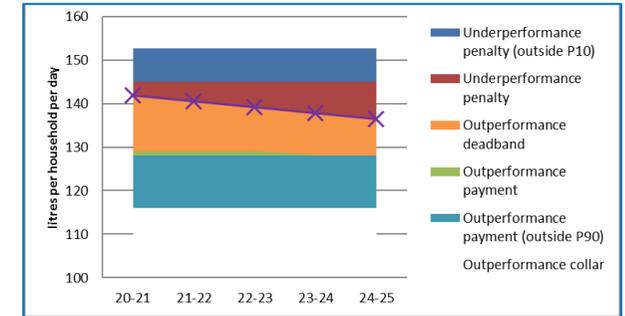


Figure 65: Per capita consumption ODI profile

Outperformance rates have been set based on a customer WTP value for water efficiency that translates to £28k per litre per person per day p.a. This calculates as an incentive value of £14k per l/p/d and a total potential outperformance reward of £0.86m over 2020-25. Our annual costs amount to £7k p.a. per l/p/d. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £24k per l/p/d, a total potential penalty of £1.6m over 2020-25.

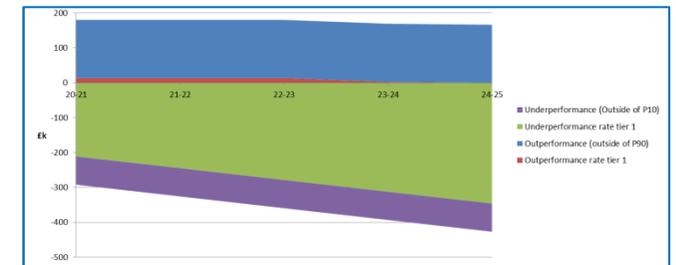


Figure 66: Per capita consumption incentives profile (£k)

Reason why our target is stretching

We believe the target reflects customer preferences; we have reflected the relatively weak customer support for PCC targets by only applying rewards for an exceptional level of consumption reduction. This still allows innovation that would allow us to outperform our target to be incentivised. With our proposed water efficiency platform to provide choice to end customers, in the long-term incentives for PCC reduction through ODIs would not be required, and therefore this approach should not be interpreted as a lack of water efficiency ambition for 2020-25 or the long-term.

Meter penetration

PC: Continuation of PR14 metric, wholesale network plus

ODI: Underperformance penalty and outperformance reward

PC Driver: Continuation of existing PC supporting promotion of meter options to residential customers and selective metering on change of occupancy.

Description: This is a measure of the number of residential properties that have a metered water supply.

Benchmark: At c53%, our level of metering is currently behind average for the industry at 59% and the upper quartile of 71%. Our plan for 2015-20 sees us targeting delivery of 65.9% by 2020, which will be above industry average. Industry

benchmarks include companies with universal compulsory metering in areas designated as being an in water stress:

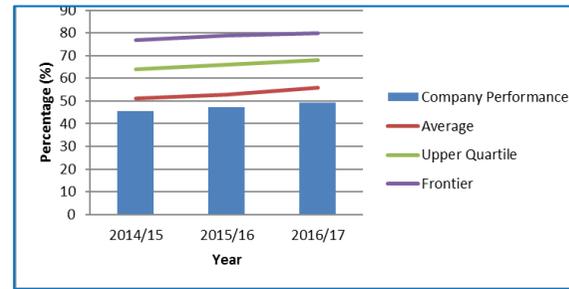


Figure 67: Historical performance for meter penetration

Our target and incentives

Our metering programme is targeted to achieve 65.9% by 2020 and 75% by 2025, taking the level of metering beyond the current upper quartile for the industry:



Figure 68: Targets for meter penetration PC

A penalty and reward ODI is proposed, with no deadbands. Given our current performance we have set the standard underperformance penalty collar at 55% so that there is an on-going penalty for not meeting the PR14 performance

commitment, to emphasise our commitment to promoting metering and water efficiency, consistent with our Water Resource Management Plan:

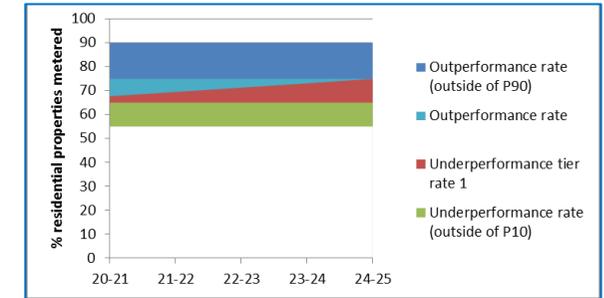


Figure 69: Meter penetration ODI profile

Outperformance rates have been set based on a customer WTP value for metering that translates to £41k p.a. per 1% of residential customers metered. This calculates an incentive value of £20k per 1% of residential properties metered and a total potential outperformance reward of £1.9m over 2020-25. Experience suggests metering above 75% (£0.4m reward if delivered from 2020) is highly unlikely to be delivered in practice. Our annual costs amount to £29k p.a. per 1% of residential customers metered. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £26k per 1%, a total potential underperformance penalty of £1.8m over 2020-25.

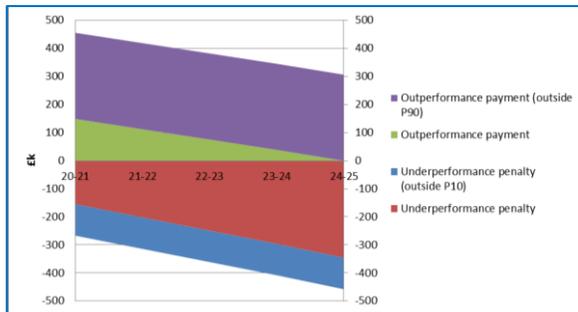


Figure 70: Meter penetration incentives profile (£k)

Reason why our target is stretching

We are targeting a level of metering performance that will become increasingly harder to deliver through optional approaches. This will require us to promote metering, for instance innovating through proactive metering and our “Beat the Bill” campaigns in order to achieve this target. Customers have shown no appetite for compulsory metering for all customers, which we are not in the position to deliver in any case.

Our plans for 2020-25 and beyond

We have a responsibility to ensure we can supply water in the future, no matter how the needs of society change. Our plans aim to ensure that, through collaborative working with our communities and by protecting and enhancing our local environment, we meet the collective challenges which society faces today and in the future. This will help our communities to be more resilient to events such as extreme weather and to longer-term changes such as population increases,

increasing trends in water use in younger generations, climate change and to rising levels of deprivation through more choice on water efficiency.

Based on all of our customer research and taking into account the bill reduction beyond the levels which we consulted on in our business plan, we have chosen to base our final plans on targets relating to our ‘suggested improvement programme’.

Our plans are to:

- Promote the efficient use of water and continue our metering programme, to reduce the amount of water used by every person by 5% from 142 litres per person per day to 135 litres per person per day. This amounts to over 3 billion litres of water per year. In future communications with customers we will reinforce the message that water efficiency is about reducing wastage (and therefore bills) rather than constraining customers’ enjoyment of water.
- Increase the percentage of properties with a meter from 65.9% to 75% through a continuation of our change of occupancy and ‘Beat the Bill’ optant programmes, to support our water efficiency programme by providing the price incentive for customers to use water efficiently and to help locate leaks.
- We will look to the market to provide help to provide customers with more choice on how to track and manage their water usage.

- We will continue to work with our research partners such as the University of the West of England to better understand usage and to gain global research and perspectives which will support our customers.
- We will play a community leadership role through our new Resource West group, working in partnership with key local stakeholders such as local government, universities, other water companies and energy organisations in order to bring together the shared knowledge and capacity of these organisations and deliver greater gains for local communities in issues of water efficiency, waste plastic reduction, energy efficiency and local resilience. Projects for this initiative will be launching shortly and will be fully under way in AMP7.
- Deliver scientific and educational projects on water conservation in addition to the work we are doing to go beyond our WINEP requirements. We have also taken a community leadership role for broader issues of resource efficiency.

These targets and plans are consistent with our draft and final Water Resources Management plans which provide our plans over a 25 year planning horizon. In the longer term we will continue to reduce leakage and have a challenging aspiration to reduce per capita consumption to 110 litres per person per day by 2045. The key elements of the WRMP are summarised at the end of this chapter.

Promise: Reducing leakage

Our customers' views



What matters the most to our customers

Our customers told us that we should focus on reducing how much water is used, before developing new supplies. To achieve this, our priority is to reduce leakage. We currently have one of the lowest levels of leakage of any water company and by 2020 we will have cut leakage by 12% over five years.

Reducing leakage is a top priority, although there are a range of views from customers on whether they are prepared to reduce leakage further, with some customers seeing this as something that the company should pay for.

Customer feedback on our draft business plan

Most customers continued to support leakage as a key area for investment, although a minority of customers felt that the company should pay for leakage reductions rather than customers.

When customers were asked to choose investment plans for leakage, views were split evenly between the slower improvement plan and higher investment options, with 56% of customers

supporting investment beyond the slower improvement plan.

Social Renters are most likely to choose the slower plan whereas Safely Affluent customers tend to favour the faster plan.

In our final plan acceptability testing, in the context of comparative information and the proposed bill, 83% of customers agreed with our leakage plans and only 2% disagreed.

What we have achieved so far

We are committed to cutting leakage by 12% over 2015-20.

Historically, we have deployed several traditional options for managing leakage:

- Active Leakage Control
- Pressure management
- Asset renewal

We have been changing our approach to driving down leakage and have been trialling a series of technologies that are helping to develop a smarter network, where our targeting of leaks is informed by data captured and analysed by sensors and analytical software.

We have been trialling tools such as Syranix Pipeminder for monitoring leaks on trunk mains and also been involved in trials of new technology working with academics and suppliers.

We have used our 'Field Lab' environment to trial pressure management based on hydraulically calming the network.

Our evolving approach is based on having a better understanding of hydrodynamic conditions of our network, based on new monitors that can detect transients and noise and dynamic hydraulic control. Through these techniques we have found that it is possible to better detect, pin-point and manage leakage.

Spotlight on: predictive models for reducing leakage

We have developed burst and leak prediction models that help us to assess the implications of deterioration, asset health and asset life as well as models that identify performance hot-spots, enabling cost-effective targeting of investment on monitoring and renewals.

These models enable impacts of severe weather to be predicted and can be used to inform operational response in a 'cold-snap' as well as explore long-term trends in performance and climate resilience.

We are using these models to make sure that we maintain our assets in a way that is both efficient and supportive of long term resilience.

Case study: resilient and dynamically adaptive water distribution networks

This project has been a long-term collaboration between Bristol Water, a technology company with extensive experience in pressure control (Claval) and a world leading research-led university (Imperial College London).

The project developed and implemented both analytical methods and control technologies to enable the concurrent design, operation and control of dynamically adaptive water distribution networks that automatically configure their connectivity and hydraulic conditions.

For example, under the “control to optimise” application state, specific hydraulic conditions within adaptively configured areas are generated to minimise average zone pressure (AZP), variations in zonal pressure (VZPTM) and the cumulative pressure induced stress (CPISTM), while maximising the resilience of a water distribution network.

This minimises leakage and supply interruptions by keeping a network calm. It also helps to minimise water treatment costs and improves water quality.

Case study: innovation in leak detection

We have been deploying Syranix’s innovative Pipe Minder technology to drive leakage down. It is the next generation of automated critical trunk main monitoring solution for leak detection and risk mitigation. This technology monitors transients in the network and can help spot leaks before they become catastrophic bursts. This helps reduce supply interruptions as well as helping to reduce leakage on trunk mains.

Moving forward, we will look at innovative solutions in leakage such as machine learning enabled leakage identification.

We will also pursue technologies such as advances in satellite imagery and drone technology to identify leaks.

Our performance commitments for reducing leakage

Leakage

PC Type: Common, water network plus control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Customer willingness to pay and Water Resource Management Plan requirements, as well as regulatory and Government expectations.

Description: Leakage is the quantity of unaccounted for water lost from our system, measured in litres per property per day.

Benchmark: Our current level of leakage is one of the lowest in the industry and better than the industry upper quartile of 88 l/prop/day. By 2025 leakage will be at 66 l/prop/day, well beyond the current industry frontier of 80 l/prop/day. Industry comparative data is shown:

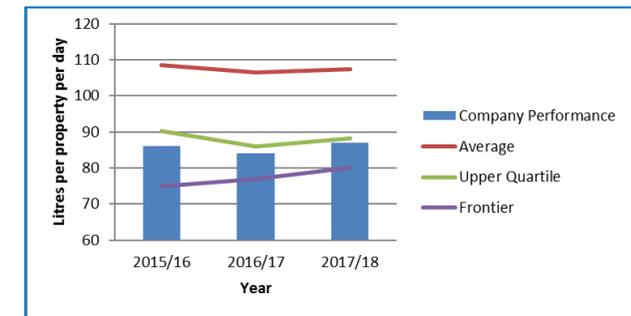


Figure 71: Historical leakage performance

Our target and incentives

The targets that we present are our own current measurement, rather than reflecting leakage

shadow reporting which will be used to update these targets for our 15% proposed reduction from 2020-25. Our annual targets are shown below, which are Water Resource Management Plan commitments:

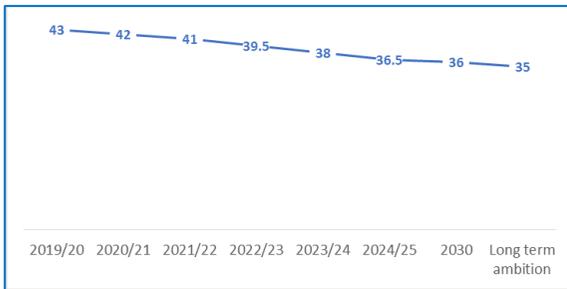


Figure 72: Leakage (MI/d)

We will be using a three-year average approach for incentives calculation (to be updated to the industry standard “shadow” measure once sufficient track record of data is established by 2020), and have not proposed a deadband to ensure that we will be penalised if we do not improve upon our 2019-20 actual level of leakage.

The first standard outperformance payment would only be due if we achieved a level of leakage reduction as suggested for the ‘faster’ improvement target in the draft Business Plan. The second standard outperformance payment would only be due if we achieved a forecast frontier level equivalent to the lowest practically achievable level of leakage.¹¹

¹¹ Unavoidable Annual Real Losses (UARL) level of performance of 29 MI/d

We show below that it is unlikely that we would be able to achieve beyond our leakage target or would allow leakage to deteriorate below its 2020 starting point, although we have penalties set up to our worst historical performance. As we set out in Bristol Water...Clearly, we expect the long term leakage target to be reset in light of future innovations for the long term (by 2035). Our leakage ODI is illustrated below:

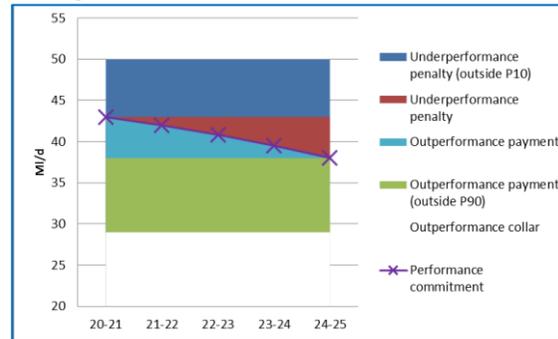


Figure 73: Leakage (3-year average) ODI profile

Outperformance rates have been set based on a customer WTP value for leakage that translates to £322k p.a. per 1MI/d. This calculates an incentive value of £161k per MI/d and a total potential outperformance reward of £9.4m over 2020-25. Our annual costs amount to £305k p.a. per MI/d. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £169k per MI/d, a total potential underperformance penalty of £7.9m over 2020-25.

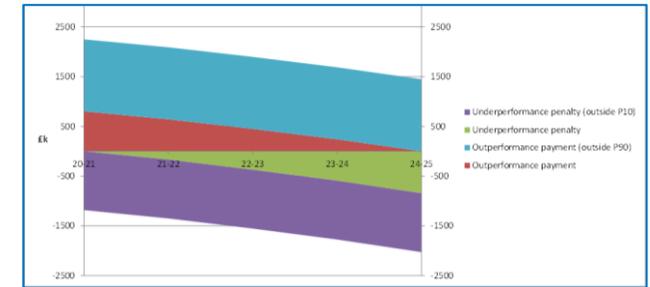


Figure 74: Leakage (3-year average) incentives profile (£k)

Reason why our target is stretching

Our leakage target achieves a 15% reduction between 2020 and 2025. Our target has been set through our Water Resource Management Plan and is the level required to balance supply and demand over this period, with a surplus available overall. It is a level which is supported by customer willingness to pay.

Our Water Resources Management Plan

Our draft Water Resources Management Plan 2019 (WRMP19) set out our plan for providing a resilient supply of water to our customers over the 25-year planning period 2020-45, even in a severe drought. Customer preference underpinned every phase of the development of the draft plan, with over 12,000 customer surveys carried out ranging from simple annual surveys to detailed whole-day customer workshops. The plan was also informed by dialogue with our regulators and collaborative discussions with other water companies through new and existing partnerships such as the West Country Water Resources Group and the River Severn Working Group.

The draft WRMP19 highlighted that:

- Bristol Water faces a minor supply deficit in drought conditions in 2023 (the middle of AMP7), largely driven by a growing population in our supply area.
- The supply deficit at the end of AMP7 is 1.9MI/d, rising to 12.8 MI/d by 2045.

The draft WRMP explained our preferred approach to addressing this forecast supply deficit:

- Reduce leakage during AMP7 to a level of 37MI/d, driven by our customers' preferences.
- Invest in reducing raw water losses from our raw water mains.
- Reducing our treated water bulk supply transfer to Wessex Water.

- No new water sources were identified as being necessary over the next 25 years.

Consultation Responses

Following the launch of our WRMP consultation we received nine responses, from the Environment Agency, Ofwat, the Bristol Water Challenge Panel, Historic England, Wessex Water, the Canal & River Trust, National Farmers Union, Waterwise and Somerset Wildlife Trust.

The **Environment Agency** as the key statutory consultee provided the most extensive feedback on the draft WRMP19. It found no issues with the accuracy of our regulatory data tables (one of only two companies to which this applied) and was broadly supportive of the plan:

“We welcome a draft water resources management plan from Bristol Water that has positively responded to our challenge to improve the way it assesses its supplies and demonstrate an understanding of the way its system operates”.

However, the Environment Agency suggested the proposed reduction in leakage was not sufficiently ambitious. They wanted to see further progress on leakage along with actions to reduce customer per capita consumption.

Ofwat welcomed the strong focus on customer engagement in developing the plan and the ongoing involvement of the Bristol Water Challenge Panel. Their main comments focused on:

- Further clarity on how the bill impact discussion has been presented to customers.

- Updating the drought resilience assessment in line with the new national methodology.
- Concern that the proposed leakage reduction target was not sufficiently ambitious.
- Alignment between Bristol Water and Wessex Water on bulk export volumes.

The Bristol Water Challenge Panel commented that the draft WRMP was a readable and easily digestible document and congratulated Bristol Water on its level of communication with its customers and others. The Panel suggested the plan should contain:

- More information on the range of behavioural changes required by customers in order to achieve the scale of water use reduction necessary to maintain water supply resilience.
- More information on how we plan to address non-drought water supply resilience risks, such as reservoir failures or major outages in the water supply system.

Customer feedback

A total of 265 customers provided consultation responses to our draft WRMP19 via our online engagement channels:

- 92% of respondents said that they understood the draft plan.
- 73% of respondents felt that the plan strikes the right balance of risk for the short and long-term with only 6% feeling that it does not (the remainder were unsure).
- 85% of respondents agreed with the solutions set out in the plan and only 5% did not agree.



Our Statement of Response will respond to all of the feedback which we received.

We are now developing our 'revised draft plan' for submission to Defra. The principal changes proposed are:

- Leakage reduction by 2025 reduced from 37 MI/d in the draft plan to 36.5 MI/d in the final plan (15% reduction) and further reduced in the longer term from 36.5 MI/d to 35 MI/d by 2045 in our final plan. These targets reflect customer preference and also meet the leakage challenge to water companies from Ofwat and the National Infrastructure Commission.
- Household meter penetration to be increased to 73% by 2025 (mid-year, 75% by end of year) and further increased to 87% by 2045.
- A more ambitious water efficiency strategy in our draft final plan in line with the company's ambition to reduce per capita consumption (PCC) to an average of 110 litres/head/day by 2045. Our WRMP central forecast is currently based on 129 litres/head/day by 2045 based on what could be achieved given current policy and technology. Our adaptive pathway planning technique will enable us to adapt our plans as circumstances change. Achieving a target of 110 litres/head/day by 2045 will require collaborative working with other water companies and local authorities as well as action by government over the coming years to influence national policy as well as customer behaviour.

- A 10 MI/d reduction to the deployable output (reliable supply) of our water sources in a 1 in 200 year drought event following a reassessment against the new national drought resilience assessment methodology.
- An 8.8 MI/d reduction to our baseline raw water losses value following a re-assessment that took into account the benefit of recent maintenance activities.

With these changes applied to our supply-demand balance calculation, and subject to final data checks and audit, we now forecast a small residual supply deficit in drought conditions of 0.2 MI/d at 2030 and rising to 12.3 MI/d at 2045.

We propose to address this forecast residual supply deficit by applying the same measures as we set out in our draft WRMP19:

- Reduce our c11 MI/d bulk supply export to Wessex Water by c7 MI/d so that we can maintain a resilient supply to our own customers, without detriment to their customers.
- Invest in a programme to reduce raw water losses, to increase the volume of water reliably available for supply to our customers.

Our revised draft plan is fully consistent with our PR19 Business Plan submission. Internal and external assurance of the updated plan is currently taking place.

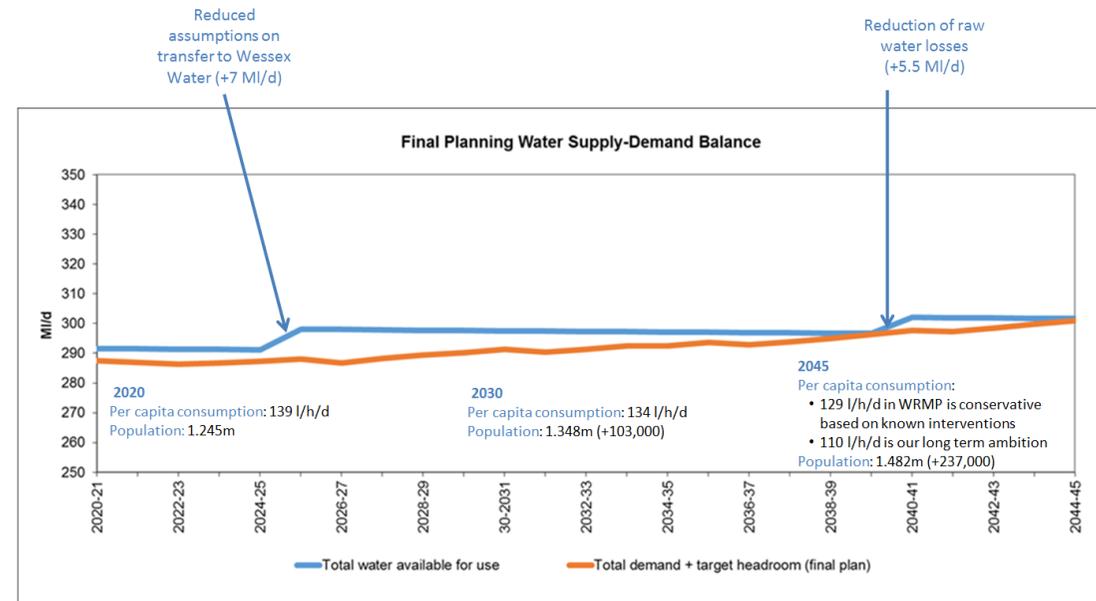


Figure 76: Final WRMP supply demand balance

Our outcome delivery incentives for this outcome

The maximum total underperformance penalty for this outcome is £14.0m over 2020-25, which would equate up to a c£4 reduction per household customer per annum.

The maximum total outperformance reward for this outcome is £13.7m, which would equate up to a c£4 increase on the average household bill per annum.

The largest incentive is for the leakage performance commitment. Together with per capita consumption these are two common industry measures.

We also show the level of performance expected to occur 80% of the time, reflecting the central view of incentives which could reward innovation or penalise poor performance.

Performance Commitment	Incentive type	2020-25 maximum under performance penalty £m	Annual bill impact £	2020-25 maximum out performance penalty £m	Annual bill impact £
Biodiversity Index	Penalty and Reward	-0.134	<50p	0.360	<50p
Raw Water Quality of Sources	Penalty and Reward	-0.341	<50p	0.241	<50p
Waste disposal compliance	Penalty only	-0.043	<50p		
WINEP compliance	Penalty only	-1.019	<50p		
Abstraction Incentive Mechanism	Penalty and Reward	-0.112	<50p	0.112	<50p
Local community satisfaction	Penalty and Reward	-1.021	£0.50	0.831	<50p
Per Capita Consumption (PCC)	Penalty and Reward	-1.633	£0.50	0.862	<50p
Meter penetration	Penalty and Reward	-1.806	£0.50	1.909	£0.50
Leakage	Penalty and Reward	-7.890	£2.50	9.377	£2.50
Total		-13.999	£4.00	13.692	£4.00

Figure 77: Outcome delivery incentives summary

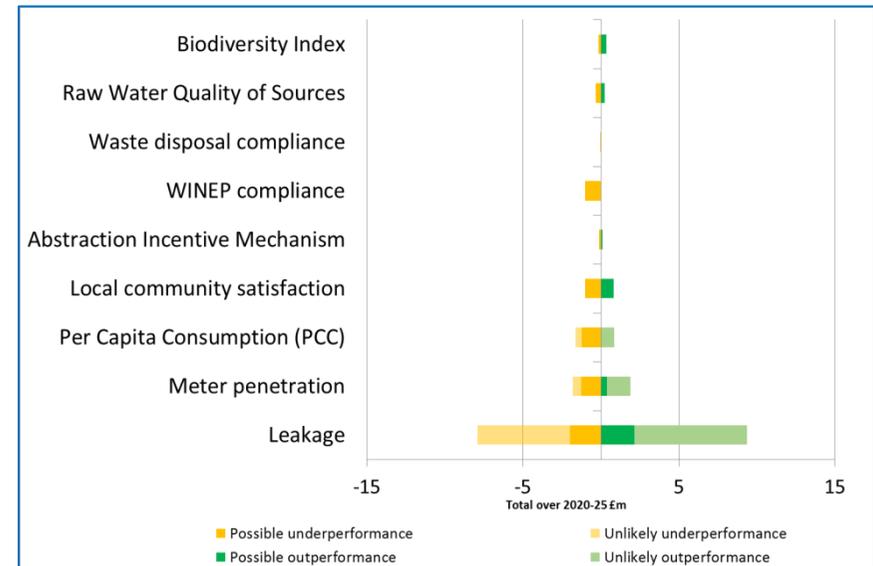


Figure 78: Outcome incentives over 2020-25 in 2017/18 CPIH prices (£m)

9. Outcome 3: Safe and Reliable Supply of Water

We will provide a safe and reliable supply of water now and in the future. Our customers are confident in the quality of our water, and are confident that they will always get a constant supply of top quality water that meets all legal standards.

Introduction

Reliable delivery of safe, high quality drinking water is a must - our customers expect this as a minimum. Our work to deliver top quality water starts in the catchments where the water is sourced, continues at our water treatment plants and through our pipes. In this chapter of our plan we explain how we will achieve the outcome of **Safe and Reliable Supply of Water** by delivering on a series of promises that stem from our customers' priority of **'keeping top quality water flowing to your tap'**. We present a summary of customer views, our performance commitments and outcome delivery incentives for three groups of performance commitments.

Key Messages

- Safe and reliable water is a fundamental expectation for our customers
- Our water quality performance is currently industry leading and we aim to keep our water quality at this level
- Asset health and resilience are important factors influencing this outcome



Performance Commitments

Improving Water Quality		
1	Compliance risk index	£
2	Discolouration contacts	£ £
3	Taste/odour contacts	£ £
4	Turbidity at water treatment works	£
Reducing Supply Interruptions		
5	Supply interruptions	£ £
6	Mains burst	£
7	Risk of low pressure	£ £
8	Unplanned non-infrastructure maintenance	£
Resilience – boosting protection		
9	Population at risk from asset failure	£ £
10	Drought risk	🗨️
11	Unplanned outage	£

🗨️ Reputational ODI £ Under-performance penalty ODI
 £ £ Under-performance penalty and over-performance payment ODI

Background

To achieve an outcome of **Safe and Reliable Supply of Water**, we will implement initiatives to deliver on three promises:

- **Improving water quality**
- **Reducing supply interruptions**
- **Resilience – boosting protection**

These promises reflect both what our customers have told us, and the need to meet regulatory expectations. They balance stretching performance with bill affordability and value.

To hold us to account, each of our promises is linked to one or more performance commitments. A total of four performance commitments will be used to

track our progress towards **Safe and Reliable Supply of Water**. Each is also linked to an outcome delivery incentive (ODI) to help ensure that we deliver for our customers, and, where appropriate incentivised to outperform through innovation. ODIs can be reputational or financial (underperformance penalties if we fail to deliver and, where appropriate, outperformance payments for going beyond our stretching commitments).

For *this outcome*, we have ten performance commitments with financial ODIs and one performance commitment with a reputational ODI.

Promise: improving water quality

Our customers' views



What matters the most to our customers

In addition to our statutory obligations and long-term challenges, we know that providing safe, good quality water at all times is our customers' main priority for us as a water company. Triangulated values from our valuation research tell us that customers are willing to pay to improve the clarity and taste of their water. Even when we talk to our most engaged customers, who know more about the regulatory standards for water quality, they still see it as a top priority for improvement relative to other commitments. Maintaining a quality water supply is also a priority for our future customers in our Youth Board.

'Poor water quality' is one of the top three reasons for customers to express dissatisfaction in the annual survey since 2015 and it makes up around 8% of non-billing calls from customers, the fourth most common operational reason customers contact us. When discussing water quality with customers, they value it as a performance commitment because it is important for them to know that their water is being kept clean, they find it reassuring regarding any potential health risks, and think such a commitment improves trust between the company and its customers.

The appearance of water is valued highly by our customers. It is a consistent high priority across all research and engagement. 1.5% of all complaints we receive are related to the appearance of customers' water. Customers are often unaware of the reasons that water is not clear and associate it with either health concerns or poor taste. For some of our more engaged customers, like our Customer Forum, the appearance of water is a lower priority because they see it as a 'nuisance' but essentially harmless. Our future customers also gave less of a priority to discoloured water than to overall water quality.

Customers prioritise taste and smell in a similar way to the appearance of their water. In fact, sometimes these three attributes are conflated, or considered in different combinations in discussions with customers. As such, the taste and smell of water is a consistent high priority across all research and engagement. 4% of complaints we receive are regarding the taste of customers' water, and 3% are about its odour.

Customer feedback on our draft business plan

To guide the process of talking to our customers about our Business Plan, we presented three possible plans. These alternatives described **slower**, **suggested** and **faster** paths to the same long-term ambition.

There is general support for water quality as the highest priority for the company, but some question why Bristol Water should be aiming to improve

already high standards. Views were mixed, with 54% of customers choosing the slower improvement plan for the Compliance Risk Index, whereas more customers preferred investment levels beyond the slower improvement plan for discoloured water and water that doesn't taste or smell right, at 54% and 72% respectively.

With respect to performance relating to customer contacts on water appearance, the majority of our customers did not support the *'faster plan'* proposal, which is the forecast upper quartile level of performance. However, future customers and lower socio-economic groups were found to be more likely to prioritise water quality as a key concern, preferring levels of investment beyond the slowest plan.

A safe and reliable supply has always been the top priority for customers throughout all our research and engagement. The conclusion on safe and reliable supply outcome measures was to **continue with the suggested plan**, if phasing of improvement means that it can be delivered at a time when bills are reducing overall.

In our final plan acceptability testing, in the context of comparative information and the proposed bill, 87% of customers agreed with our drinking water quality (compliance) proposals and only 4% disagreed. 72% supported the 54% reduction in discoloured water and only 3% disagreed. 68% supported our proposals to improve the taste of tap water and only 6% disagreed. The opportunity for customers to be neutral or "don't know" in these

surveys reflected the difference, which is strong support for the plan given the low experience of problems with our water quality.

In the final acceptability telephone survey where customers did not have comparative information available, 72% agreed with our plan for safe and reliable supplies and only 2% disagreed. A total of 91% of the most informed customers in focus groups agreed with our plans and no-one in these groups disagreed.

What we have achieved so far

We currently provide high quality water and our customers experience few issues with their water supply. We know however, that receiving safe, good quality water at all times remains a top priority for customers. The taste and appearance of tap water is something which customers value highly.

We have been working with our farming communities, through the process of catchment management to help control the quality of our water sources and improving the understanding and control of our water supply and distribution systems to manage issues of discolouration.

We have been trialling the use of sensors and controls that enable us to understand network hydrodynamics better and manage them more effectively.

Case Study: Metaldehyde action

Metaldehyde is a pesticide used by farmers and gardeners to control slugs. It is washed off land during rainfall events and finds its way into raw water sources such as the Gloucester & Sharpness Canal. It cannot easily be removed by current water treatment work processes and so we are working with farmers to reduce the amount used and risk that it will be washed off the land. Here is how we have dealt with this challenge to date:

2005 to 2010 – We were the first company to detect metaldehyde in concentrations exceeding the drinking water standard 0.1µg/l.

2010 to 2015 – We started the Metaldehyde Action Project catchment management programme in the Canal catchments:

- We undertook river and stream sampling and fed back results to farmers
- We provided advice to individual farmers with high risk operations and fields next to watercourses
- We calibrated slug pellet spreaders to ensure accurate applications
- We provided training for farmers and agronomists in pesticide use
- We put leaflets in garden centres, agricultural suppliers and articles in the local press
- We engaged with domestic slug pellet users
- We trialled non-metaldehyde alternatives (ferric phosphate)

2015 to 2020 – we have continued the above programme of monitoring, training and engagement:

- We have further strengthened good relationships with the farming community
- We have compensated farmers for the higher cost of using ferric phosphate instead of Metaldehyde

Spotlight on: Our Mendip Lakes Partnership

The Mendip Lakes are key sources of water. The quality of drinking water relies on the quality of the water environment.

Following increasing frequencies of algal blooms in the Mendip reservoirs causing problems at our treatment works, we started the Mendip Lakes Partnership project – bringing together the Environment Agency, Catchment Sensitive Farming and Natural England to coordinate advice and stewardship across the catchments.

As part of this project we:

- Used satellite imagery to understand land use and nutrient loss from the catchment.
- Formed a Farmer Focus Group to inform the project direction.
- Provided advice and support to farmers on nutrient and soil management and analysis, farm yard infrastructure audits, water management advice and Countryside Stewardship application advice.

- Provided farmers with the Bristol Water Catchment Grant Scheme, this has helped farms reduce their pollution risk, for example by fencing off watercourses and sowing cover crops over winter to reduce nutrient leaching.
- Ran regular farm workshops with specialist speakers.

Our performance commitments for this promise

Compliance risk index

PC Type: Common, wholesale network plus control

ODI type: Underperformance penalty only

PC Driver: Target of zero reflects this is legal water quality compliance

Description: This is a measure designed to illustrate the risk arising from treated water compliance failures, and it aligns with the current risk-based approach to regulation of water supplies used by the Drinking Water Inspectorate (DWI).

All compliance failures are assessed by DWI using the provisions of the Water Industry Act 1991. In doing so, DWI has regard to its published Enforcement Policy, and it also follows the principles of “better regulation” to scrutinise company performance on the basis of risk of failing to meet the requirements of the Regulations.

Benchmark: Bristol Water has historically been performing above the industry upper quartile and for 2017-18 we are at the frontier level of performance:

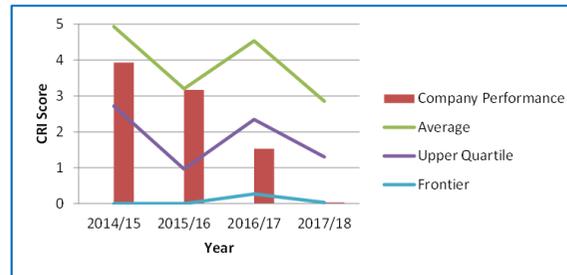


Figure 79: Historical performance for Compliance Risk Index

Our target and incentives

We are forecasting to achieve a frontier level of performance (around the zero level of CRI performance) throughout 2020 to 2025 and beyond:

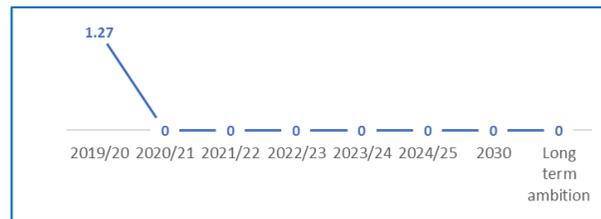


Figure 80: Targets for Compliance Risk Index

Ofwat has mandated that this include a **penalty-only ODI** for this measure and that the target be set to zero. The ODI is shown below, with a deadband reflecting that our 2019-20 target is at the industry upper quartile for what is a relatively new performance measure.

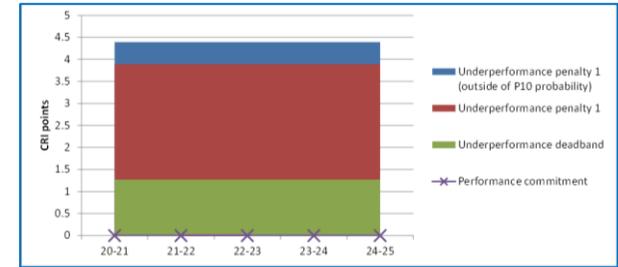


Figure 81: Compliance Risk Index ODI profile

We have proposed a penalty deadband for this metric, at our target which is to at least remain upper quartile. A penalty collar has been in the event that our performance moves beyond the average performing company (in 2016-17), which is beyond our own worst performance. The ODI is illustrated below, see Figure 82:

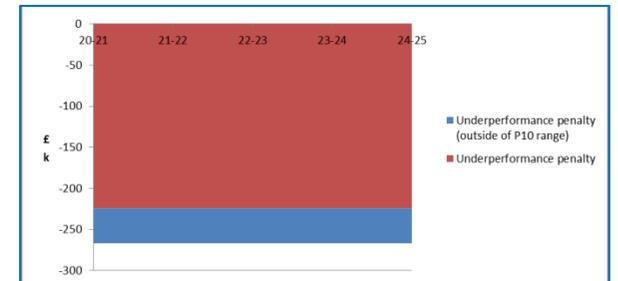


Figure 82: Compliance Risk Index incentives profile (£k)

Underperformance rates have considered both a willingness to pay based on the probability of a boil water notice, which amounts to £286k. Our annual costs were estimated from our investment plan at £399k. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £87k per CRI index point p.a., a total potential underperformance penalty of £1.4m over 2020-25.

Reason why our target is stretching

Because full legal compliance reflects an index score of zero, which we nearly achieved in 2017-18 (0.032).

Customer contacts about water quality – appearance

PC Type: Mandatory area, wholesale network plus control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Regulatory expectations on drinking water and industry upper quartile performance levels

Description: This measures the number of times we were contacted by customers about the appearance of their tap water (per 1,000 customers supplied) in the calendar year. This is a revision of our PR14 performance commitment, Negative Water Quality Contacts.

The two main causes for water not being clear are i) disturbance of harmless deposits making the water brown, black or orange. This may occur if there is a disturbance of the mains system, caused by a burst main or a leak; and ii) air or chalk making the water appear white.

Benchmark: Bristol Water has historically performed worse than the average across the industry for this measure (12.9 contacts per 1,000 customers). This is shown in [Figure 83](#).

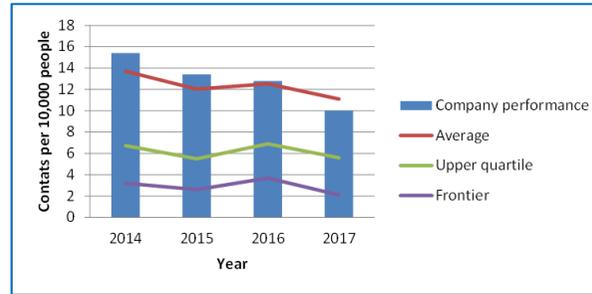


Figure 83: Historical performance for contacts on appearance

Our target and incentives

Our target of 0.43 contacts per 1,000 customers is a significant challenge, but may not take our performance to outturn upper quartile for the industry. The cost to meet this level of performance outweighs the benefits.

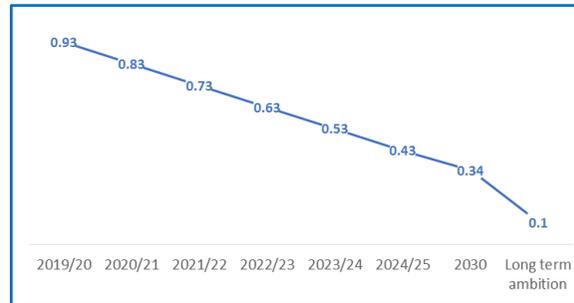


Figure 84: Targets for appearance contacts PC

There is a proposed **penalty and reward ODI** for this measure. This is shown below.

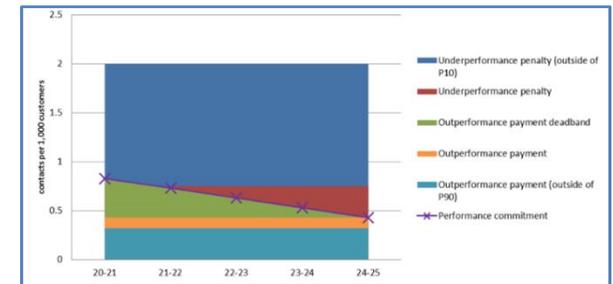


Figure 85: Appearance contacts ODI profile

No underperformance penalty deadband has been proposed; if we miss our proposed targets we would incur underperformance penalties up to our worst historical performance. We have decided this is appropriate due to the large degree of influence we have. We include an outperformance deadband up to our forecast of the industry upper quartile in 2025 of 0.43, which is our performance commitment. This means we are only rewarded for beating our 2025 target.

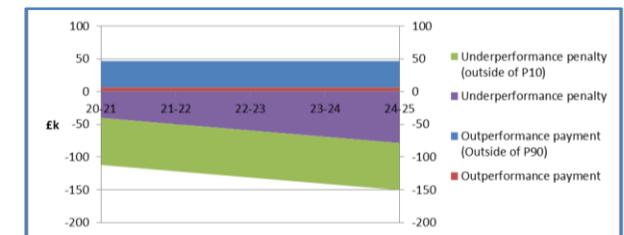


Figure 86: Appearance contacts incentives profile (£k)

We have two outperformance rates. We have a higher WTP of £251k per contact per 1,000 people above industry leading performance and £116k up to the industry frontier. This reflects our customer

priorities to improve this area as new innovations arise. The lower rate calculates an incentive value of £58k per contact per 1,000 people and the total potential outperformance reward is £0.23m over 2020-25. The higher rate calculates a value of £126k per contact per 1,000 people. Our annual costs amount to £38k p.a. per contact per 1,000 people. We use the standard Ofwat methodology



calculation to arrive at an underperformance incentive rate of £97k per contact per 1,000 people, a total potential underperformance penalty of £0.66m over 2020-25.

Reason why our target is stretching

We have proposed an outperformance deadband to ensure that we are only eligible to earn rewards if and when we drive contacts below our 2025 target level of performance, in recognition that we are forecast to be below the upper quartile level of performance across the industry. The first standard outperformance tier has been set at the current frontier level.

Customer contacts about water quality - taste and odour

PC Type: Mandatory area, wholesale network plus control

ODI Type: Underperformance Penalty and outperformance reward

PC Driver: Regulatory expectations on drinking water and industry upper quartile performance levels

Description: This measures the number of times we were contacted by our customers about their water’s taste or odour (per 1,000 people supplied) in the calendar year. This is a revision of our AMP6 performance commitment, Negative Water Quality Contacts.

The main causes for water tasting or smelling different are:

- the use of chlorine to maintain good hygiene in the pipe network
- seasonal water quality effects creating a musty smell or earthy taste
- a change in where your water comes from or how it is treated
- a customer’s plumbing, which for various reasons can cause a range of tastes including metallic, salt, rubbery or earthy tastes.

Benchmark: Our company performance is poorer than the industry average, which in part reflects our resilience as customers notice marginal changes to water quality when sources of water change:

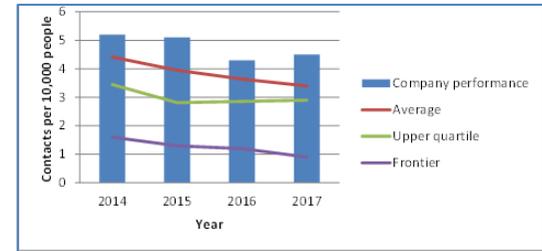


Figure 87: Historical performance for taste and odour contacts

Our target and incentives

Our plans will take us to 0.25 contacts per 1,000 customers, so beyond the current industry upper quartile (0.3 contacts per 1,000 customers).

We have proposed a penalty and reward performance commitment. This is shown below:

Figure 88: Targets for taste and odour contacts PC

This ODI has an underperformance deadband to reflect the natural variability due to our planned resilience schemes, which can change the source of water customers are supplied from, particularly in the city centre, which can lead to an increase in water quality contacts.

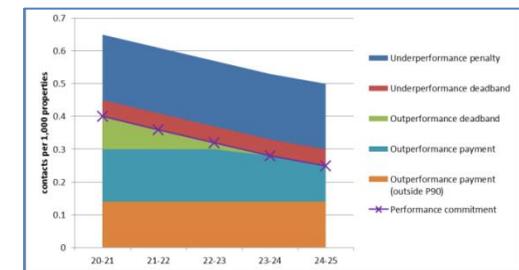


Figure 89: Taste and odour contacts ODI profile

We have two outperformance rates. We have a higher WTP of £271k per contact per 1,000 people above industry leading performance and £169k up

to the industry frontier. This reflects our customer priorities to improve this area as new innovations arise. The lower rate calculates an incentive value of £84k per contact per 1,000 people and the total potential outperformance reward is £0.16m over 2020-25. Our annual costs amount to £25k p.a. per contact per 1,000 people. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £157k per contact per 1,000 people, a total potential underperformance penalty of £0.16m over 2020-25.

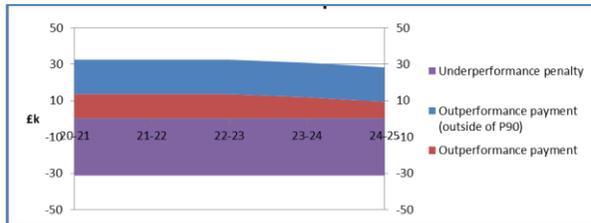


Figure 90: Taste and odour contacts incentives profile (£k)

Reason why our target is stretching

The outperformance payment deadband ensures that no reward is due unless the Company achieves a forecast upper quartile level of performance.

Turbidity performance at treatment works (no. of failing works)

PC: Mandatory area – asset health, wholesale network plus control

ODI: Underperformance penalty only

PC Driver: Best historical performance (0 failures). This is an asset health measure.

Description: This was an AMP6 sub-indicator to our Asset Reliability (Non-Infrastructure) performance commitment. It is now being reported as a separate performance commitment. It is used as an indication of the health of treatment processes, such as the operation of filter performance.

We are using the standard definition for reporting which is the number of operational potable water treatment works whose turbidity 95th percentile equals or exceeds a 0.5 NTU (Nephelometric Turbidity Units) threshold.

Benchmark: Historical performance has been ‘zero fails’ and the target is set at zero fails.

Our target and incentives

We have assumed that the target should be set at zero, which is consistent with our historical performance.

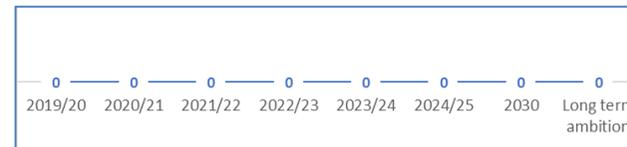


Figure 91: Targets for turbidity PC

We have proposed a penalty only ODI with no deadband and a collar of one works failure:

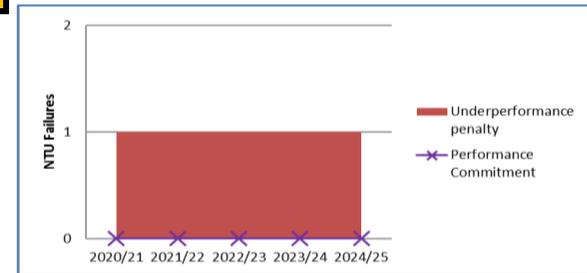


Figure 92: Turbidity ODI profile

Although customers have a WTP to avoid water quality incidents, this is captured in other measures.

Instead we have set our underperformance penalty at a multiple of our costs to incentivise underlying maintenance. This results in a penalty of up to £4.2m over 2020-25, reflecting the importance of this measure to water quality.

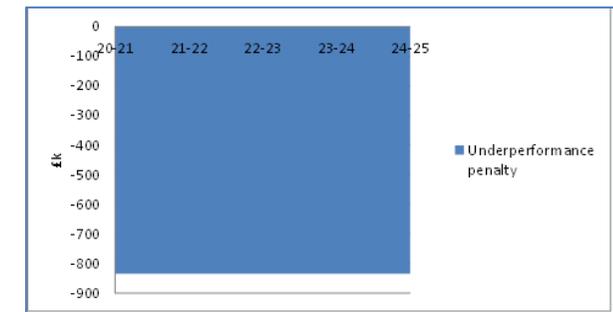


Figure 93: Turbidity incentives profile (£k)

Reason why our target is stretching

The target represents full compliance (zero failures).

Our plans for 2020-25 and beyond

Our plan is designed to meet the requirements of the DWI and is in line with our Drinking Water Safety Plans.

We aim to halve the likelihood that customers experience a problem with the appearance or the taste or smell of their tap water.

We will continue to invest in maintaining and upgrading our treatment works so that they continue to provide top quality water.

We will reduce discoloured water by continuing to target and replace those mains which are deteriorating, and systematically flush those areas where we detect increased iron concentration in the water and/or have a number of discoloured water complaints. We plan to reduce taste and odour contacts through optimising water treatment and improved customer information, noting the impact of improved supply resilience in moving water around our region.

Replacement of lead supply pipes on a homeowner's property remains a difficult problem due to a lack of customer willingness and access issues. Consequently, we will undertake pilot lead pipe lining trials during the period 2020-25 and compare its effectiveness and cost against typical lead pipe replacement. The results of the trials will be used to inform our long-term strategy. We have not included the additional cost of these pilots as we will deliver them within our existing maintenance and lead pipe replacement activities.

Our customers are responsible for their own pipes within their property; however, we are continuing our programme of lead pipe replacement in high risk properties such as schools.

Our metaldehyde reduction approach through catchment management continues to mitigate the risk, and together with potential restrictions from Government on its use there is a clear plan to address this challenge. The DWI has supported us continuing this programme, subject to potential changes to farming regulations on the use of metaldehyde.

We plan to continue to put catchment management at the heart of our work in the Mendips to improve both raw water quality and biodiversity. The Environment Agency and Natural England continue to support our approach and there are catchment management schemes in WINEP3 to reduce nutrient run off for algae in the Cheddar / River Axe catchment. The EA and NE have also provided general support for a wider catchment management and biodiversity programme. Even though there is no formal regulatory requirement for 2020-25, it does form part of how we meet wider expectations of Government and our customers.

We also take a forward look at our challenges and heightened public awareness of microplastics and associated research could mean there may be a requirement for a replacement programme of older plastic pipework if these are shown to shed plastic micro-fibres. We do not propose any pro-active replacement of this pipework in this plan, other than as part of the general outcome delivery of our plan.

Promise: reducing supply interruptions

Our customers' views



What matters the most to our customers

We know that customers value avoiding interruptions, particularly when they last a long time and are unexpected. Customers who have experienced disruption are more concerned about avoiding them in the future.

When discussing supply interruptions and reliability as a performance commitment with customers, surprisingly they didn't always prioritise it to the same extent as other measures. Some customers we talked to about this saw occasional interruptions as inevitable and bearable and prioritise commitments in other areas more strongly. This is in part because our response when customers are interrupted has enhanced our reputation with them – a good response to a problem means customers think you are doing well. Younger, future customers have less tolerance as they do not have the same memory of services when interruptions (and other water quality and supply issues) were more frequent. However, more generally, customers do recognise the impact of disruptions on vulnerable customers and see it as a key part of a water company's main responsibilities.

From our research with customers who had experienced interruptions we have gained useful insights into how to improve our response to interruptions, which can have a big impact on how customers experience them – this is captured under the proposed C-MeX measure.

Customer feedback on our draft business plan

To guide the process of talking to our customers about our Business Plan, we presented three possible plans. These alternatives described **slower**, **suggested** and **faster** paths to the same long-term ambition.

Most of the customers who responded to our consultation said that they preferred the **slower** investment plan for reducing supply interruption (67%). This in part was because the slower plan included a 66% performance improvement (it was based on current industry average). Customers who commented on this performance commitment said they were not concerned because, either they had not experienced interruptions or because they felt they were manageable if customers were kept informed. This performance commitment has the lowest customer support for the **faster plan** out of all areas in the safe and reliable outcome, however reliability is identified in other research as a top priority, suggesting that the consultation response relates to the price package rather than the performance commitment itself. Having a reliable water supply is a top priority in general for customers, so this is a clear response to the price package and level of improvement in the **slower** plan, rather than the service area as a whole. We

carried out further acceptability testing **whether to only hit the 2020 upper quartile** (the **slower plan**), but with the potential for a smaller bill up to 2025 with a potential uplift in 2026 as penalties were removed / additional spend to hit 1.8mins/property as the forecast upper quartile, 82% of customers preferred the **suggested plan**. Therefore, we maintained our target approach for the final plan, rather than storing up problems for the future.

Maintaining the health of our assets through regular maintenance and replacement when required ensures that we will be able to continue to provide reliable services to our customers in the future. This is a base level of service that we need to provide as the foundation for all other service improvements. Our improvements in asset health ultimately are the outcome of the service target delivery for the targets customers most cared about.

Through our robust investment planning, which includes risk assessment processes and deterioration models, we have identified the efficient level of activity required to maintain our assets at the standard necessary to deliver services to customers, including asset health where this is the outcome from delivering the service improvements that customers notice most. This means that customers will continue to be protected by investment in this plan, without storing up problems for the future.

A safe and reliable supply has always been the top priority for customers throughout all our research and engagement. The conclusion on safe and reliable supply outcome measures was to continue with the **suggested plan**, if phasing of

improvements mean that it can be delivered at a time when bills are reducing overall. We have achieved this balance.

In our final plan acceptability testing (in the context of comparative information and the proposed bill), 67% of customers agreed with our proposed 85% reduction in supply interruptions and only 4% disagreed. The opportunity for customers to be neutral or “don’t know” in these surveys reflected the remainder, which indicates strong support for the plan given the low experience of supply interruptions.

What we have achieved so far

With respect to supply interruptions, we recognise our performance has recently been in the lower quartile for the industry, and this is something which we plan to improve through this plan.

We will be replacing our hydrants, so we can inject water into the network using special tankers. We will also be improving the scheduling and dispatch of our field force, both through new IT technology and new supply chain arrangements through our transformation programme.

Our investment and technology innovations and work to reduce leakage will also benefit supply interruptions.

Spotlight on: managing the risks of supply interruption at high risk sites

We currently have a good base level of monitoring equipment, with pressure loggers in our district metering areas. This base level of monitoring allows us to proactively manage burst and leaks through the monitoring of flow and pressure.

Within our supply area, there are many locations where our trunk mains cross railways or rivers and as such, pose a number of risks associated with bursts, such as risk of injury and risk of extended supply interruption because of difficult site access.

At the highest risk sites, our approach is typically to install low cost leakage monitors rather than to pursue high cost modifications to the pipework. Two leakage monitors are installed at each crossing, helping to detect small leaks which can be fixed before the leak develops into a burst main.

Data from the monitors is transmitted back to centralised software which automatically analyses the received data to match the measured noise and pressure signatures to typical leak signatures. Close matches trigger an automated message to be sent to local operatives to investigate the site.

Case study: using noise monitoring for a smarter network

During AMP6 we have collaborated with our supply chain to test innovative new monitoring loggers on our networks, and their associated data analytics tools.

The loggers we have tested detect the noise transmitted through pipe walls, and through water, and then analyse this data using analytics software. The resulting outputs support the rapid detection and location of leaks and mains bursts.

The temporary loggers can be deployed as a suite of 4 or 5 monitors in a single district metering area. When used in this way, the data can be continuously monitored so that when the noise signature of a burst is detected by multiple loggers, an accurate location of the burst can be triangulated based on the position of the monitors.

Deploying these temporary loggers represents an important component of the measures we will use to deliver our outcome of a Safe and Reliable Supply of Water to our customers.

Our performance commitments for this promise

Supply interruptions greater than 3 hours

PC Type: Common, wholesale network plus control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Upper quartile regulatory expectation. We have set targets based on our forecast for the industry top quartile. Performance targets will be reset based on the actual upper quartile, an approach which we understand Ofwat will finalise as part of the final determinations.

Description: This includes planned and unplanned interruptions lasting longer than three hours.

Benchmark: Our benchmark performance against others has tended to be poorer than average:

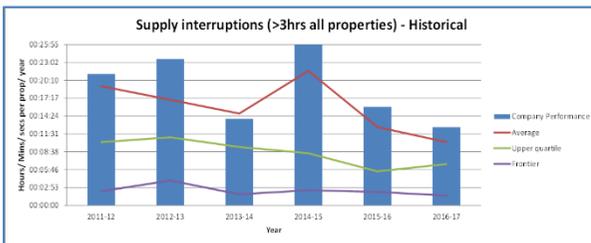


Figure 94: Supply interruptions historical performance

Our target and incentives

We are targeting a forecast of industry upper quartile performance in our business plan, but the target and incentives will vary with the actual upper quartile. Our target is based on a dynamic industry upper quartile and is set on the basis that it will

change. Given our customer views on the pace of change, this approach will be acceptable to them, but we suggest that caps and collars are left unadjusted, and we assume that the incentive rates will be reconfigured accordingly. Although the format for the common metric is defined as hours:minutes:seconds, we present below as minutes per property as it is easier to present and understand incentive rates in this format.

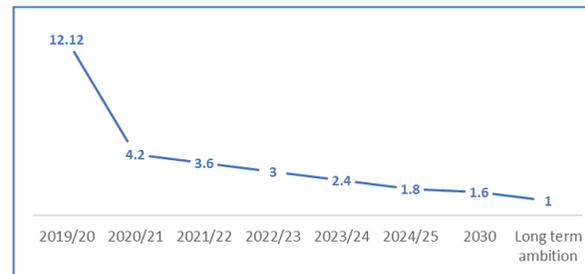


Figure 95: Targets for supply interruptions PC

A penalty and reward ODI is proposed - see Figure 96.

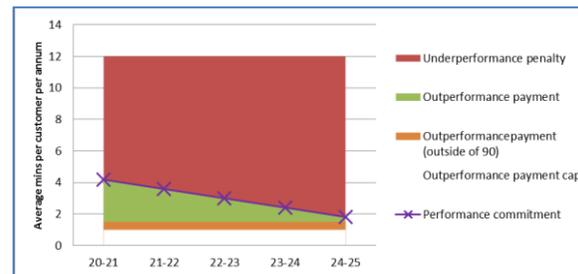


Figure 96: Supply interruptions ODI profile

The standard penalty collar (at 12 minutes) has been set at just below our PR14 target for 2019-20 (12.2 minutes), i.e. if we do not improve on our end of AMP6 target performance we would incur a maximum penalty. The outperformance payment

cap (at 1 minute) has been set at a rate that is beyond the frontier achieved in the industry to date (the best performance recorded in the industry was at 1.48 minutes). Deadbands have not been included for either under or outperformance.

We have two outperformance rates. We have a higher WTP of £765k per contact per minute above industry leading performance of 1 minute 30 seconds and £205k per minute above our forecast of industry upper quartile performance. The higher rate reflects the triangulated WTP we tested through our “faster” level of service in our draft business plan.

This reflects our customers’ priority to improve this area as new innovations arise. The lower rate calculates an incentive value of £102k per minute and the total potential outperformance reward is £1.7m over 2020-25. Our annual costs amount to £203k p.a. per minute. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £103k per minute, a total potential underperformance penalty of £4.6m over 2020-25.

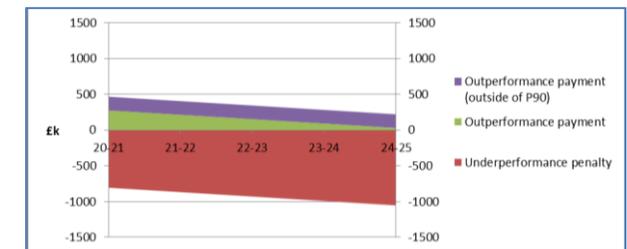


Figure 97: Supply interruptions incentives profile (£k)

Reason why our target is stretching

We are targeting upper quartile performance from a currently 'lagging' level of performance, in part because we previously targeted interruptions from zero minutes, but the standardised industry definition of supply interruptions means we can deliver this performance commitment in a different way, with rapid reaction tankers to maintain pressure in mains which can be deployed in time to meet the 3 hour target.

Mains bursts

PC Type: Common; asset health, wholesale network plus control

ODI Type: Underperformance penalty only

Case for target Modelled performance – improved asset health as the outcome of achieving other targets.

Description: We have adopted the standard definition for the industry for this metric. This is based on the number of mains bursts per thousand kilometres of total length of mains.

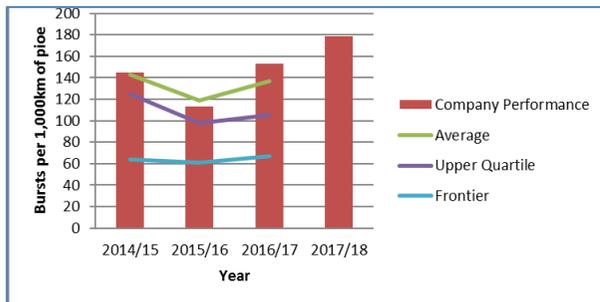


Figure 98: Historical performance for mains bursts

Benchmark: This is a comparative metric and we have historically been performing worse than the average company across the industry. This is due to the historical age of the network assets, which are the oldest on average according to benchmarking with water companies across Europe.

Our target and incentives

Our objective is to at least maintain the past level of performance, but to reduce the number of mains bursts as we reduce leakage and supply interruptions in line with customers' priorities. The improvement in the mains burst target reflects the benefit of our maintenance programme, rather than comparing our burst rate to other company networks (which have different factors that affect them). We take a customer centric approach while ensuring past improvements are maintained for the long term.

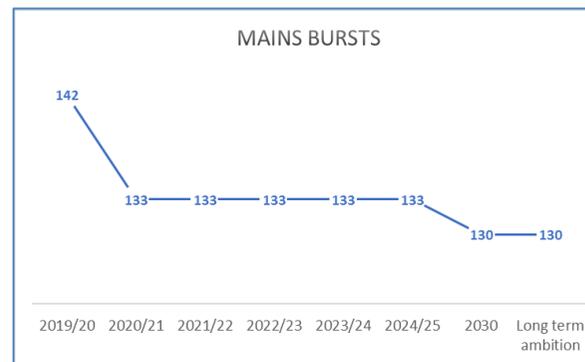


Figure 99: Targets for mains bursts PC

We have proposed a penalty only ODI with a deadband:

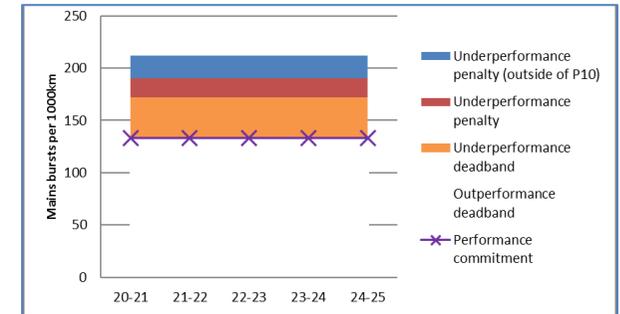


Figure 100: Mains bursts ODI profile

This deadband reflects a degree of annual variation in burst levels, so that penalties are only payable where deterioration in performance would be related to underinvestment or poorly-targeted investment. The penalty collar has been set at our worst performance to date (recorded in 2010-11).

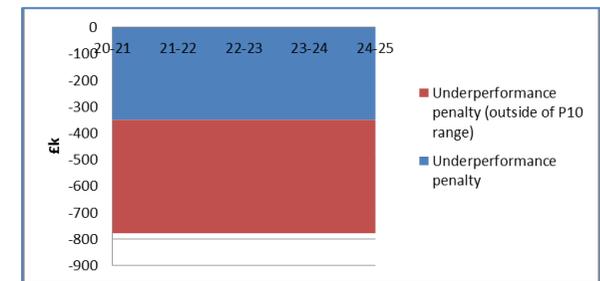


Figure 101: Mains bursts incentives profile (£k)

Customers do not have a direct WTP for mains bursts as this is captured in their preferences for pressure, leakage and supply interruptions. Instead we have set our underperformance penalty at a multiple of our costs to incentivise underlying maintenance. This results in a penalty of up to £3.9m over 2020-25, reflecting the importance of

this measure as an incentive to manage long-term asset health.

Reason why our target is stretching

We have a relatively old network and a significant proportion of mains laid during the post-war period (when poorer quality materials were used), which contributes towards the below industry average performance. We have however proposed a 2024-25 target that is more challenging than that proposed in our draft Business Plan. This is due to us considering customer service choices on other targets and identifying the least cost way of delivering these, which included a benefit for mains bursts over time.

Properties at risk of receiving low pressure

PC Type: Mandatory area (asset health), wholesale network plus control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Targeted improvement, with penalties that reflect asset health and rewards only for significant improvements in performance.

Description: We have adopted the industry standard definition, which measures the total number of properties in our area of water supply which, at the end of the year, have received, and are likely to continue to receive, a pressure or flow below the reference level.

This was an AMP6 sub-indicator to our Asset Reliability (Infrastructure) performance

commitment. It is now being reported as a separate performance commitment to ensure that our performance is more transparent and therefore easier to understand for our customers

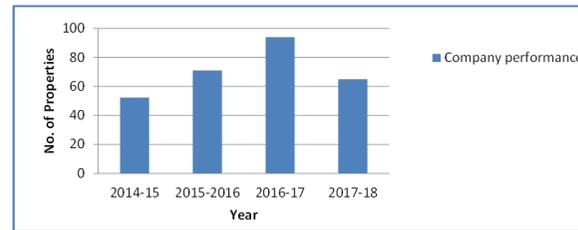


Figure 102: Historical performance for properties at risk of low pressure

Benchmark: There are only a few properties which are at risk of not meeting industry low pressure standards persistently. We will improve over 100 such properties, but new properties sometimes also arise. The net impact is used as a measure of asset health. As this is property specific, we do not use industry benchmarks to set targets.

Our target and incentives

The target is based on historical performance and while not seen as a priority for many customers, improvements will be achieved, in part as we reduce leakage.

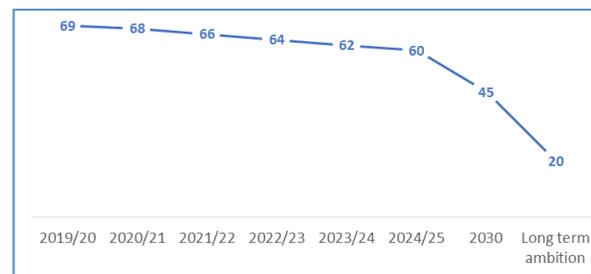


Figure 103: Targets for properties at risk of low pressure

We have proposed a penalty and reward ODI, with a penalty deadband in recognition that we may need time to address the addition of any new properties to at risk register for poor pressure. The underperformance penalty collar has been set at the current upper threshold limit, as this continues to protect past investment. An outperformance reward rate is set at a forecast of industry upper quartile performance, so only a sustained reduction in properties at risk will result in an incentive, recognising that it is uncertain how many new risks will arise.

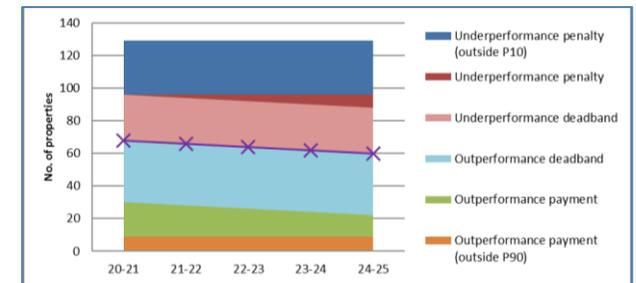


Figure 104: Properties at risk of low pressure ODI profile

Customer WTP amounts to £9k p.a. per property at risk of poor pressure. This results in an incentive value of £4.6k per property and the total potential outperformance reward is £0.6m over 2020-25. Our annual costs amount to £1k p.a. per property. We use the standard Ofwat methodology calculation to arrive at an underperformance incentive rate of £8.6k per property, a total potential underperformance penalty of £1.6m over 2020-25.

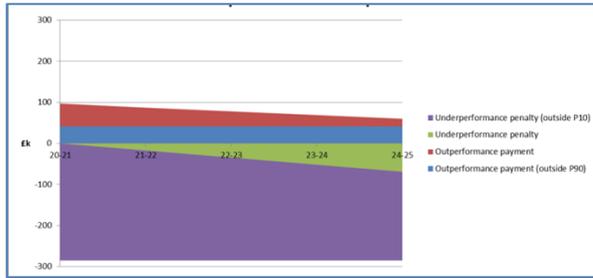


Figure 105: Properties at risk of low pressure incentives profile (£k)

Reason why our target is stretching

Customers generally do not view pressure as a priority. The outperformance payment deadband ensures no payment is due unless our performance moves towards being a leading company in the industry.

Unplanned maintenance – non-infrastructure

PC Type: Mandatory area (asset health), wholesale network plus control

ODI Type: Underperformance penalty only

PC Driver: Average of the best three years of historical performance

Description: We have adopted the standard industry definition, which is the total unplanned non-infrastructure maintenance jobs, required as a result of equipment failure or reduced asset performance, as a proportion of all non-infrastructure assets.

This was an AMP6 sub-indicator to our Asset Reliability (non-infrastructure) performance

commitment. It is now being reported as a separate performance commitment to ensure that our performance is more transparent and therefore easier to understand for our customers.

Benchmark: Although there is some data available across the industry, this has not been reported on a consistent basis and so is of little relevance as a comparator. We have therefore considered our historical performance and investment plans when proposing our future targets. This is shown below:

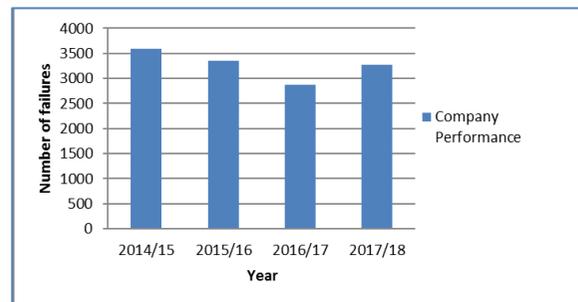


Figure 106: Historical performance for unplanned non-infrastructure maintenance

Our target and incentives

The target has been set at a 3-year average of our best historical performance, at 3272 asset failure events.

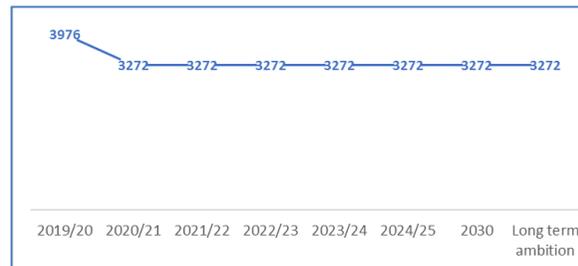


Figure 107: Targets for unplanned non-infrastructure maintenance PC

We have proposed a penalty only target with an underperformance penalty deadband that has been reduced from past levels to maintain asset health to the level of service we have recently delivered:

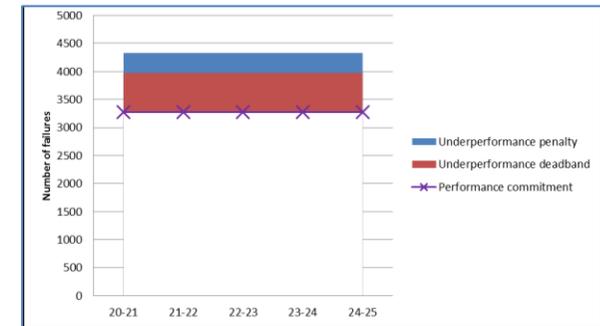


Figure 108: Targets for unplanned non-infrastructure maintenance ODI profile

Customers do not have a direct WTP for unplanned non-infrastructure maintenance events as this is captured in their water quality and supply interruption preferences. Instead we have set our underperformance penalty at a multiple of our costs to incentivise underlying maintenance. This results in a penalty of up to £4.7m over 2020-25, reflecting the importance of this measure as an incentive to manage long-term asset health.

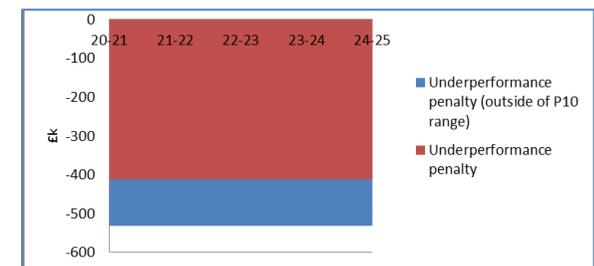


Figure 109: Targets for unplanned non-infrastructure maintenance incentives profile (£k)

Reason why our target is stretching

The target represents the best sustained historical performance, and therefore protects past investment. The collar for penalties is above the worst levels achieved as this target has never been failed.

Our plans for 2020-25 and beyond

We know that customers value avoiding interruptions, particularly when they last a long time and are unexpected. Customers who have experienced disruption are more concerned about avoiding them in the future.

We are working to improve the resilience of our network. A combination of our effective operational response; better targeting of problem pipes; improved understanding of asset criticality and our resilience performance commitment will all be helping to improve reliability of service. We are also implementing initiatives to better understand our network, both in terms of having 'calmer' DMAs and smart data – all of which will be supporting delivery of this promise.

Investments that contribute to the reduced mains bursts target are similar to supply interruptions, including targeting distribution network zones for a wide range of leakage and interruption risks. In addition £3.1m on "sliplining" projects delivers water compliance, mains bursts, leakage and discoloured water benefits in our plan.

To deliver continued benefits to our customers we will develop a configuration that creates a smarter network through deployment of additional sensors.

We will achieve this by installing:

- 400 additional pressure loggers in all district meter areas;
- 160 additional transient monitors in our highest risk district meter areas; and
- 1000 additional flow loggers in all remaining waste water meter districts.

This proactive approach will improve our overall response time and reaction to customers as well as highlight any other issues such as low pressure.

In addition, installing permanently deployed transient loggers will provide advance warning of harmful transient flow before it causes a burst.

The selected network monitoring interventions contribute to ensuring our assets are maintained appropriately for the benefit of current and future generations. The most significant contributions are to supply interruptions, mains bursts, and appearance contacts and low pressure.

In the longer term we plan to continue to use innovation and new technologies to further reduce bursts and supply interruptions.

Promise: resilience – boosting protection

Our customers' views



What matters the most to our customers

We talked to customers about avoiding severe water use restrictions, and specifically about the idea of a “back-up supply” when considering a range of business plan options. In our initial conversations, customers had mixed views. Some saw the value in investing to ensure as many customers as possible were served by more than one source, whereas others were happy with the current level of service and risk and did not see the need for additional investment. We also talked to customers about improving the resilience of our network in the context of managing supply – at our deliberative events we found that they were supportive of measures that made the network more flexible and avoided the need to increase supply in some areas.

With respect to water restrictions during a drought, our research has shown that customers are happy with the level of drought risk that we currently manage for and few customers rank it as a high priority. However, businesses have more concerns and value avoiding droughts more highly, because of the impact on their profits. We researched this impact and which business segments were most affected, but ultimately our plan did not require a case to be made for reducing risk of droughts, given

that most customers preferred leakage and water efficiency reduction over developing new water supplies, and this means drought risk in this region reduces as we deliver other service preferences.

We engaged specifically with customers on our Water Resources Management Plan and found that they were largely supportive of our approach to focusing on demand reduction in the short term and revisiting the plan regularly to ensure it meets long-term needs in the Bristol Water area. We found that they were broadly happy with the levels of drought risk at the time (1 in 15 years for hosepipe bans, 1 in 33 years for Temporary Use Bans - TUBs). In focus groups on our early draft performance commitments, drought risk was second bottom priority, reflecting customers' lack of concern.

We also asked customers their opinions on hosepipe bans and TUBs. Hosepipe bans are consistently given as a low priority across the customer research, and due to a perceived low risk of drought given few recall having experienced one, customers do not value a reduction in the instances of TUBs.

Customer feedback on our draft business plan

To guide the process of talking to our customers about our Business Plan, we presented three possible plans. These alternatives described **slower**, **suggested** and **faster** paths to the same long-term ambition.

When we talked to customers about protection against a major water supply event (one that lasts more than 24 hours), a few commented on the

importance of preventing a major event, but most commented more generally on interruptions to supply. Customers from the online panel preferred the slower plan, whereas customers in the representative survey preferred the suggested or faster plans, reflecting a difference in understanding of water company risk through being part of full engagement process.

Overall, 53% of customers chose the **slower plan**, with the remainder being split between the **suggested** and **faster plans** even though there is no difference in cost. This suggests that supply events or outages are not a priority and that the current level of risk is acceptable.

This is because most customers had not experienced severe interruptions, and those that had were happy with the customer services response when they had experienced events, and did not instantly recall the event. As with our other individual areas, we presented a package of bills for our draft plan so the individual selection of a slower plan required further testing, particular as we reduced costs for our final plan by scrutinising costs and investment options further.

A safe and reliable supply has always been the top priority for customers throughout all our research and engagement. The conclusion on safe and reliable supply outcome measures was to **continue with the suggested plan**, if phasing of improvement means that it can be delivered at a time when bills are reducing overall.

When we presented customers with a choice between a slower plan in return for a £4 lower bill up to 2025, but the potential for a higher bill if

supply interruptions and resilience investment was delayed, 82% preferred us to continue with the suggested plan.

In our final plan acceptability testing, in the context of comparative information and the proposed bill, 75% of customers agreed with our proposed investment to reduce prolonged interruptions and only 4% disagreed. The opportunity for customers to be neutral or “don’t know” in these surveys reflected the difference, which is strong support for the plan given the low experience of prolonged interruptions.

What we have achieved so far

Supporting this promise, we have targeted **asset health and resilience** through our existing resilience strategy and have delivered stretching targets to boost protection from supply failures by reducing dependency on single sources of supply. Our investment in resilience has an extensive history with investment in various schemes such as the Northern Strategic Support Scheme in AMP4, Bristol Resilience Scheme in AMP5 and the Southern Resilience Scheme in AMP6.

We are not in a water stressed region and drought risk is considered within our WRMP. Our management of water resources has meant that drought risk in recent years has been below target, and we have not imposed any drought restrictions since 1990.

Case study: Southern Resilience Scheme

We have recently invested £27m in our Southern Resilience Scheme to remove the potential for a major interruption due to the failure of a single source of supply for population centres over 25,000 people. The project provides improved security of supply to over 280,000 Customers across our supply area, including Weston-Super-Mare, Cheddar, Burnham and Glastonbury and the southern part of Bristol.

The project has involved laying 30km of new pipeline, installed in three sections from Barrow to Cheddar, as well as an upgraded pumping station at Cheddar Treatment Works.

The work allows us to move water from our northern sources to our southern supply area in the event of a loss of supply, or water back up to Bristol if we lose our northern supply.

The scheme uses gravity, rather than pumping, to get water from Barrow Gurney to Cheddar, significantly reducing energy usage.

Spotlight on: protection from WTW failures

All population centres are now protected from single asset failure on WTW sites, except for some of the population in Glastonbury / Street, and benefit from a resilient supply. This investment has demonstrated that resilience is in place for non-infrastructure assets, for example:

In January 2018, we shut down Clevedon WTW because of *Cryptosporidium* being detected in a raw water sample. We were able to recover quickly from the incident due to the availability of water from elsewhere in the network, and a quick response to flush the network and ensure there was no risk to customers from water stored in the network. While c16,000 Customers were contacted and advised to boil all water for human consumption, it was possible to revoke this notice within 4 days.

More recently, in experiencing extreme weather conditions, notably “the Beast from the East” in early 2018, the Resilience Mains that allow us to move water around our network were available to help us manage the situation effectively. This is also the case during summer 2018, where the southern resilience support main is providing support to the southern area from the north to ensure water resources are available should the dry weather continue.

Spotlight on: asset criticality profiling

We have undertaken a significant programme of work to make sure we understand where our critical mains are. This supports our aim of an integrated evidence and risk-based approach to managing assets. We worked collaboratively with Minerva to develop a framework for asset criticality profiling, which has been used to provide the ‘order of magnitude’ of totex investment in relation to strategic trunk mains infrastructure. A key element has been developing a Criticality Profiling Methodology, providing a framework for quantifiable assessment of water supply resilience, third party damage impact and cost of failure. We now have a criticality profile for 1,000km of strategic mains. The results are integrated into our corporate Graphical Information System (GIS). One specific output of this analysis was the **Exceptional Sites** work, which has identified where bursts would cause significant disruption to wider societal infrastructure, such as railway crossings, and which as a result may be expected to lead to extended periods of time to fix.

Outputs of this study contributed towards our Trunk Mains investment plan.

Our performance commitments for this promise

Unplanned outage

PC Type: Common; asset health, wholesale network plus control

ODI Type: Underperformance penalty only

PC Driver: Asset health, but as a new measure target improvements based on expert knowledge

Description: We have adopted the standard definition for the industry for this metric which is the annualised unavailable flow, based on the peak week production capacity (or PWPC), for each company. This is shown as a percentage.

This measure is to be used as a means of assessing asset health (primarily for non-infrastructure – above ground assets), for water abstraction and water treatment activities.

Benchmark: No comparable data is available for benchmarking and has not been reported previously by the company. [Figure 110](#) gives an estimate of our historical performance.

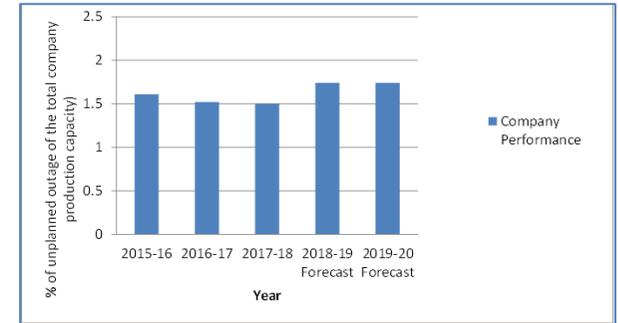


Figure 111: Unplanned outage historical performance

Our target and incentives

As this is an asset health metric that has no reliable historical performance information to compare ourselves to, we have set our service levels for AMP7 based on the expert knowledge of Bristol Water staff. The target has therefore been set at around the average historical performance to date (but this also takes into account the immature dataset):

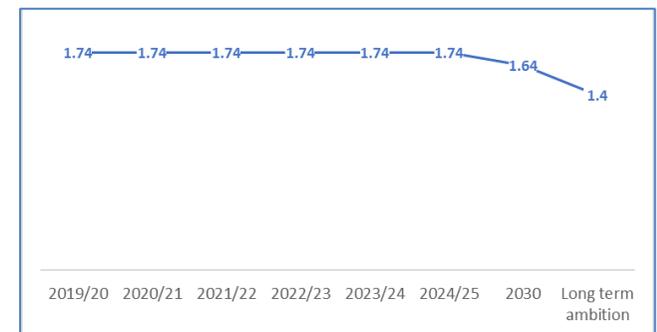


Figure 112: Targets for unplanned outage PC

We have proposed a penalty only ODI with no penalty deadband. This reflects that we expect our outage performance to improve and so no

deadband is proposed despite the uncertainty associated with this new industry measure. The collar is set at 2%.

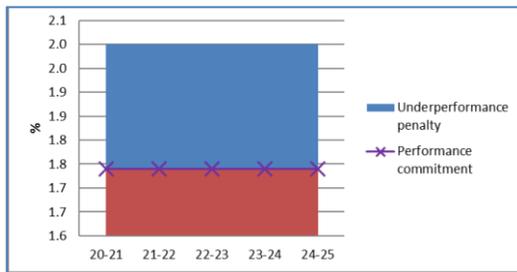


Figure 113: Unplanned outage ODI profile

Customers do not have a direct WTP for unplanned outage events as this is captured in their water quality and supply interruption preferences. Instead we have set our underperformance penalty at a multiple of our costs to incentivise underlying maintenance. This results in a penalty of up to £0.5m over 2020-25, reflecting the importance of this measure as an incentive to manage long-term asset health.

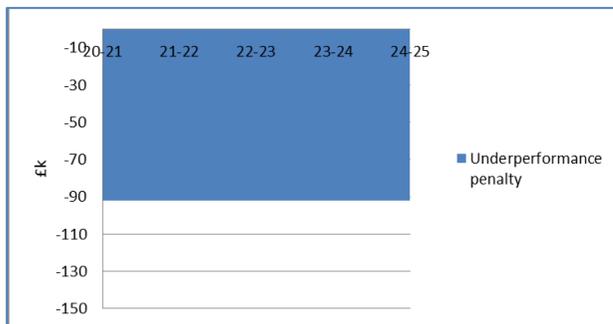


Figure 114: Unplanned outage incentives profile (£k)

Reason why our target is stretching

Although there is no comparative data, we have used expert knowledge and our historical data to set the target. This is appropriate for a new asset health measure without accurate industry reference points.

Population in centres at risk of asset failure

PC Type: Bespoke, wholesale network plus control

ODI Type: Underperformance penalty and outperformance reward

PC Driver: Reducing risk of long interruptions, 0 people in population centres over 10,000 by 2030

Description: This is a bespoke performance commitment, unique to Bristol Water. It is a measure of reduction in risk for population centres greater than 10,000 served by a single route of supply where asset failure would lead to an interruption over 24 hours.

Bristol Water has made significant investment in resilience over successive price review periods, to improve the reliability of our network, provide greater inter-connectivity and increase the robustness of our business.

This is a revision of our AMP6 resilience performance commitment. Our AMP6 performance commitment protected population in centres of more than 25,000 from the risk of above ground asset failure related to the supply from a single water treatment works.

Our new measure responds to risks in any of the critical assets serving an area which could lead to

supply interruptions of greater than 24 hours. It also targets smaller population centres, relating to those over 10,000 people, as well as extending protection to critical pipes as well as treatment works.

Benchmark: This is a bespoke performance commitment unique to Bristol Water; comparative information is not available. It has been included as our bespoke performance commitment that reflects our approach to resilience. This type of approach is one of the possible types of measure Ofwat suggested. Developing our existing measure was an obvious choice as the resilience metric for our plan.

Our target and incentives



Figure 115: Population in centres at risk of asset failure targets

Note: the long-term ambition is for population centres > 3000 to be targeted, which we think represents the point at which short term tankering will avoid long interruptions for rural communities to receive a consistent level of resilience with more urban areas.

Our proposed performance commitment is a 10-year programme, with 542,886 customers benefiting from enhanced protection in AMP7 and the remaining 290,000 in AMP8.

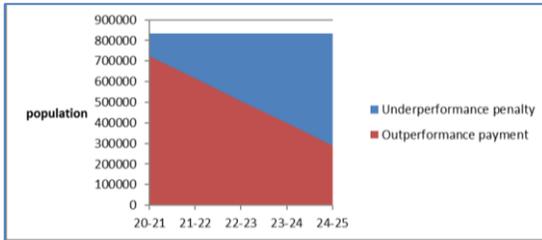


Figure 116: Population in centres at risk of asset failure ODI profile

An underperformance penalty and outperformance reward ODI with no deadbands is proposed. A penalty would be due if the Company failed to improve on the number of people calculated to be at risk at 2020. The maximum outperformance payment would see the risk reduced.

The customer WTP is based on the risk and their valuation of an interruption of more than 24 hours. This amounts to £4.71 for each person at risk of a long interruption each year. This amounts to an incentive rate of £2.36 per person, and a total potential outperformance payment of £6.0m over 2020-25. Based on our cost of delivery of £1.52 per person, using Ofwat’s standard formula an underperformance incentive rate of £3.95 per person p.a. is calculated, a total potential underperformance payment of £6.4m over 2020-25.

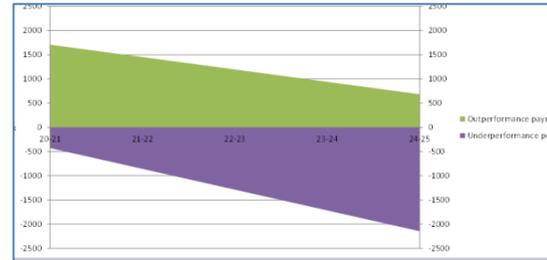


Figure 117: Population in centres at risk of asset failure incentives profile (£k)

Reason why our target is stretching

Because we aim to achieve a long-term ambition of zero customers at risk in population centres of over 3,000. Customer views have informed the pace of delivery of population centres over 10,000 by 2030, with the technical feasibility of further resilience improvements to the smaller population centres likely to be improved over time through innovation and learning from this commitment.

Risk of severe restrictions in a drought

PC Type: Common, water resources control

ODI Type: Reputational

PC Driver: 0 restrictions

Description: We have adopted the standard definition for the industry for this metric. This is the percentage of the customer population at risk of experiencing severe restrictions (for example, standpipes or rota cuts as part of Emergency Drought Orders) in a 1-in-200 year drought, on average, over 25 years.

Bristol is not a water-stressed supply area, and many living in the area have not experienced the impact of drought causing water restrictions, which last occurred 28 years ago.

We have adopted Ofwat’s recommendation that this performance commitment is a reputational incentive, as it is a new industry metric.

Benchmark: As the target is to achieve the maximum level attainable no other approaches to setting the performance commitment levels have been considered.

Our target and incentives

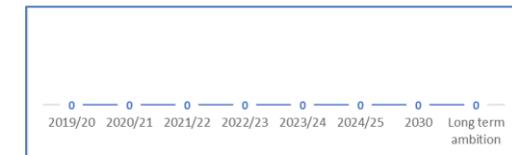


Figure 118: Targets for risk of service restrictions in a drought

As this has a reputational ODI there is no impact on our customers’ bills.

Reason why our target is stretching

Our target is to avoid water restrictions in all normal circumstances. This metric is based on a more severe drought than the worst drought on record.

Our plans for 2020-25 and beyond

We will maintain the health of our assets by targeting our maintenance investment in a way that protects services to customers. We will monitor carefully whether failures of equipment that could impact customers are becoming more frequent, and change our investment plans accordingly.

We have sufficient information to understand the risks to resilience and have developed interventions to mitigate this risk, building on our track record from past investment.

The major investment that we have identified for meeting this promise is the investment outlined in our plan for protecting over 540,000 additional people from the risk of a major water supply event.

We have identified 81 critical mains which, should they fail, would affect population centres greater than 10,000. These serve 832,886 people, which is 68.6% of the total population served. Through this investment we will reduce those at risk in these areas to 290,000 people by 2025, with these remaining people in centres over 10,000 being protected by 2030. This investment will secure resilience for a significant proportion of our customers. This goes beyond a single source of failure, to including pipes and pumping stations, building on our experience of the Willsbridge burst.

We will focus on enhancing the resilience of our critical mains, the ones that have the potential to

cause the most disruption to customers or the community should they fail.

We will achieve this in a number of ways:

- By undertaking a System Resilience Assessment to develop an improved understanding of the risk including root causes, likelihood and potential risks during planned operational activities; and
- By implementing a programme of measures to address risks to the resilience of critical mains, including mains duplication, installation of manual and dynamic valves and turbidity meters.

We are also employing innovative approaches in the use of Dynamic Boundary Valves to enable us to improve how we can react to severe disruption events. This allows us to divert or introduce water to an isolated section of the network quickly.

Our Water Resource Management Plan will ensure that the risk of needing to apply severe water use restrictions during a drought remains very low. We have summarised key messages from our WRMP at the end of this chapter.

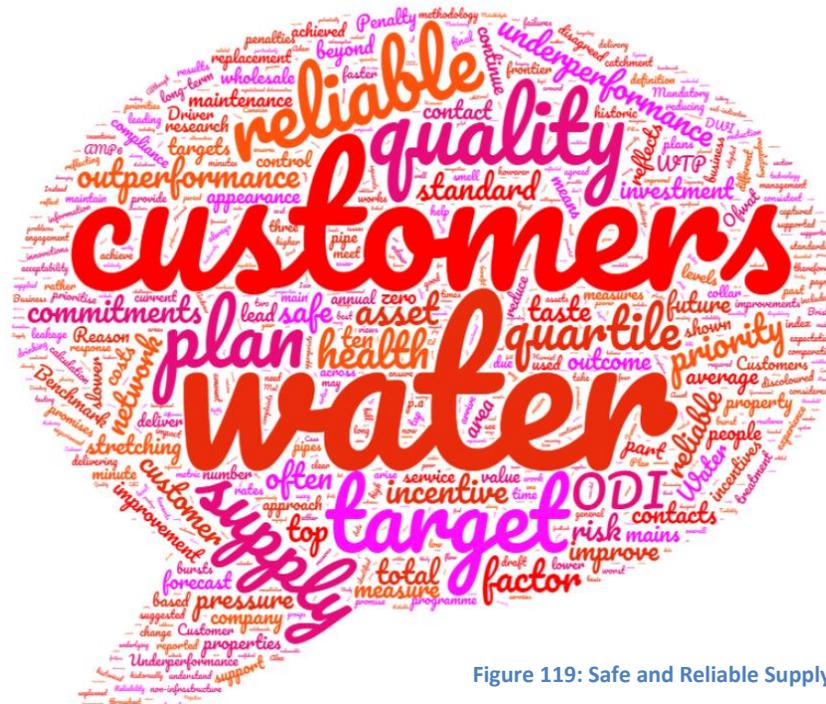


Figure 119: Safe and Reliable Supply

Our delivery incentives for this outcome

The maximum total underperformance penalty for this outcome is £28.1m over 2020-25, which would equate to a c£8 reduction per household customer per annum.

The maximum total outperformance reward for this outcome is £8.7m, which would equate to a c£2.50 increase per household customer per annum.

The largest ODI range is for the population at risk of asset failure Performance Commitment.

In the chart below, we also show the level of performance expected to occur 80% of the time, reflecting a central estimate of potential rewards for innovation and improvement or penalties for poor performance.

Performance Commitment	Incentive type	2020-25 maximum under performance penalty £m	Annual bill impact £	2020-25 maximum out performance penalty £m	Annual bill impact £
Water quality compliance	Penalty only	- 1.354	£0.50	-	
Taste/odour contacts	Penalty and Reward	- 0.157	<50p	0.157	<50p
Discolouration contacts	Penalty and Reward	- 0.661	<50p	0.233	<50p
Turbidity performance at treatment works	Penalty only	- 4.171	£1.50	-	
Supply Interruptions	Penalty and Reward	- 4.644	£1.50	1.724	£0.50
Mains Bursts	Penalty only	- 3.890	£1.00	-	
Properties at risk of receiving low pressure	Penalty and Reward	- 1.598	£0.50	0.598	<50p
Unplanned maintenance – non-infrastructure	Penalty only	- 4.722	£1.50	-	
Population at Risk from Asset Failure	Penalty and Reward	- 6.440	£2.00	5.976	£2.00
Risk of severe restrictions in a drought	Reputational	-		-	
Unplanned Outage	Penalty only	- 0.496	<50p	-	
	Total	- 28.133	£8.00	8.688	£2.50

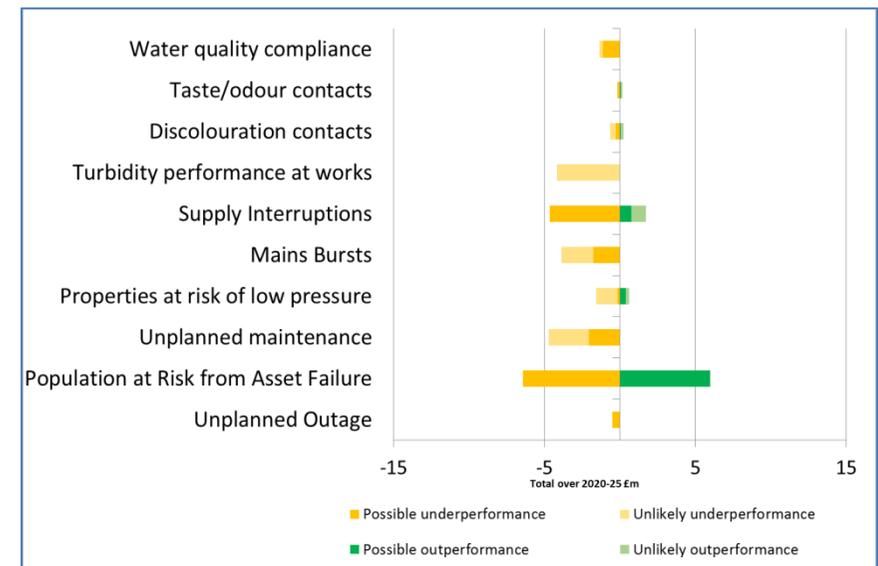


Figure 121: Outcome incentives over 2020-25 in 2017/18 CPIH prices (£m)

10. Outcome 4: Corporate and financial resilience

Our corporate and financial resilience underpins the delivery of our plan, maintaining customer trust by: providing effective corporate governance and being transparent on how we are performing; looking after and developing our people; managing our finances in a prudent and careful way, and providing a framework for resilient and innovative services.

Introduction

Our Corporate and Financial Resilience outcome does not include any customer performance commitments or ODIs. Instead it covers all the factors that underpin delivery for customers, including efficiency, innovation, health and safety and corporate governance.

This is fundamental to delivery of ‘resilience in the round’. In this chapter we describe the key components and how our plans contribute to our resilience.

Board governance and transparency

The trust of customers is essential to achieving the balance between service improvements and bill level, and we expect bills over the period to 2030 in line with or below CPIH inflation, after the reduction we propose in 2020. The main variation in bills over this period may be from regulatory incentives

(including the reversal in 2026 of penalties from 2015-20 performance). We see transparency on the trade-offs we make in achieving our plans as part of how we build on the high level of trust we already have, recognising that even though we have high levels of trust amongst our customers, we will have to work hard to build understanding of how the environment and community initiatives we propose link to the water service we provide. We have had to stretch ourselves in developing our proposed incentives because we have a maintenance driven plan, which relies on interlinked small investments and initiatives, but as a package of measures they have a large long-term impact on the communities we serve. This has driven our outcomes and performance commitments for 2020-25 and beyond.

This plan has been developed with the full ownership of the Bristol Water Board and the support of investors. We have undertaken extensive engagement and research to set out the key factors driving the business forward to deliver for customers and stakeholders, and to meet our ambitious vision for the wellbeing of society. This journey will continue at a period of change.

Corporate governance

We have a published [corporate governance code](#) which sets out the role of the Board to provide leadership, accountability and legitimacy. This recognises Board ownership of the company’s strategy, and the role they play in meeting regulatory and statutory obligations and to deliver

the service and performance which meets the needs of customers, the environment, the business and shareholders. The code covers a range of matters, including the composition of the Board and how its effectiveness and performance will be evaluated. It makes it clear that the Board of Bristol Water act as an independent company from shareholders, accountable to a range of stakeholders for their performance. Our shareholders bring a wide perspective, and as long-term investors, seek fair returns over the long-term by challenging and supporting management to deliver.

There are significant changes to the corporate governance expectations on companies, both in the UK Corporate Governance Code that applies to large companies and public services providers such as Bristol Water, and in Ofwat reviewing their principles of Board Leadership, Transparency and Governance. While these changes are being made in parallel to developing our plan, we have anticipated these changes and welcome them. Our dividend and remuneration policy presented as part of this plan ensure that shareholders receive fair returns for their investment and that the long-term stretching performance in cost and service levels reflected in this plan are also reflected in the remuneration of both executives, and the entire organisation.

Unexpected events may mean that there are occasions where we do not comply with all expectations. Where this occurs we will explain the circumstances and be transparent and justify our approach and the steps we are taking to improve. This is to be expected at a time of change, and as an

example we highlighted the approach we took in our [annual report](#) when two independent non-executive directors unexpectedly resigned recently.

Our priorities in developing this plan are aligned to our corporate governance:

- Continuously improving the quality of Board and company relationships with a wide range of stakeholders. Our commitment to community initiatives, including financial incentives and the **“Bristol Water for All”** reinvestment mechanism, embed this commitment and on-going dialogue as a key management objective. This is part of our ‘Being Trusted’ objective.
- The Board are responsible for ensuring a healthy culture and values within the company. This is part of our “Develop our people and the business” objective. It is also a key part of our Corporate and Financial Resilience outcome, both in terms of health and safety and also delivery for customers. This culture is the most important way in which we maintain the trust of our customers.
- We avoid a tick-box approach to corporate governance. As a small water-only company, we have in place governance arrangements that generally apply to much larger companies because of the important public health services we provide to society. However, we also have the advantage of direct contact to local stakeholders and customers. The Board stays

close to the communities we serve through direct local engagement.

- Both independent non-executive directors and shareholder representative non-executive directors have an important role to play. Our policy is that non-executive directors should be the largest group on the Board. Our Board effectiveness reviews check that no group dominates Board decision making and this should determine the overall balance and whether independent non-executives at a point in time will be the majority of the Board, including our independent Chair.

Health and safety

Health and safety is our number one priority. The message from the top of the organisation is clear: health and safety underpins everything we do and must be inherent in our culture. An independent review of our approach was carried out in 2017 and a series of initiatives are in place to drive further improvement. These include:

- Director safety inspections.
- Regular toolbox talks for staff to raise health, safety and wellbeing awareness.
- Company-wide launch of the ‘Take 5 for Safety’ campaign to bolster safety messages to all staff.
- Working with our contractors to ensure we are aligned at all levels.
- Launch of new site inspection, hazard reporting and improved lone worker systems.

- Co-ordination with our shareholders, who have their own health and safety processes, facilitated through sharing best practice between Bristol Water and other organisations.

We also encourage innovation in health and safety. One idea generated through an innovation exchange and now being deployed at our sites is the use of floating platforms to provide a safe working environment on water that is faster and cheaper to deploy than scaffolding.

The wellbeing of society is at the heart of our strategy, but for resilience it also applies to our staff. We recognise that stress and mental health can be one of the main causes of health and safety risks, and we have integrated this into our people plans.

Developing our people

Our people are critical to our success; they make Bristol Water the organisation it is through their customer service culture and dedication. Staff provide many of our future innovation ideas and are rewarded for them through our 'Brainwaves' scheme. We place an increasing emphasis on listening to our people and using the findings to share our future plans.

Management and staff throughout the organisation have access to company performance related bonuses, reflecting cost, cultural targets such as Health & Safety and performance against key customer priorities, such as leakage and customer service. The weighting in performance bonuses between company targets and individual performance objectives varies and is highest weighted for executive directors, aligning their interests to achievement of organisation change and delivery for customers.

Bristol Water's Resourcing Strategy focuses on attracting and retaining the skills needed to deliver excellent customer experiences in a rapidly changing industry. It has five key components:

- Early Careers programmes, which includes a talent programme for future leaders and targeted development of technical skills.
- Retaining high calibre staff by focusing on engaged teams, operational excellence, a sustainable workforce and outstanding leadership.
- Long-term arrangements for contractors that are mutually beneficial.
- Using a competency framework to underpin talent development, acknowledging that staff are Bristol Water's most important resource.
- Working with partners and charities to build skills in the community and to provide continuing professional development opportunities for our staff.

Our dividend policy

Our policy is as follows:

- We will not pay out dividends that impair the ability to finance Bristol Water's appointed activities, including the impact on key financial ratios consistent with the need to maintain an investment grade credit rating. Dividend payments also do not adversely impact employees, given there are no pension schemes that require future deficit contributions.
- We will pay a level of ordinary dividends that reflect efficiency, management of economic risk and delivery of performance commitments to customers, comprising:
 - i. An annual level reflecting the dividend yield (3.2%, with 1.3% p.a. real growth) assumed in our business plan.
 - ii. Adjustments to reflect the level of gearing variation from the level of equity return in our business plan (4.5%), where this reduces
 - the amount of dividend below the level described above.
 - iii. Adjustments to reflect the actual outcome and expenditure performance of the business, with reference to our agreed business plan.
 - iv. An amount equal to the post-tax interest receivable from Bristol Water Holdings UK Limited, a UK parent Company, in respect of inter-company loans.
 - v. In addition, annual dividends paid on irredeemable preference shares which are considered debt on the balance sheet will be paid, but are shown within finance costs rather than dividends.
- Dividends in individual years may vary to reflect funding requirements, and also to reflect financing outperformance. We have proposed a mechanism to share the benefits with customers of gearing where it increases above 70% (with the mechanism adjusting from 65% gearing in these circumstances). This supports retention of dividends within equity as financial needs arise.
- Should our actual gearing increase to more than 70% and cumulative dividend yields over 2020-25 are expected to exceed 5%, then we will demonstrate in our annual report how this is consistent with financial viability over the future period.
- We will discuss our dividend performance and company bonus schemes periodically with the

Bristol Water Challenge Panel as part of their review of our delivery for customers and the communities we serve.

Our executive remuneration policy

All staff participate in an annual company bonus scheme. The weighting between company and personal element varies depending on seniority. It is currently set at 50% company objectives, 50% personal objectives for junior grades, and increases to 70% company objectives and 30% personal objectives for more senior grades, including executives. The total potential bonus for 2017-18 varied by grade from 5% to 30% of base salary. For Executive Directors (currently CEO and CFO), 90% of the annual bonus (Annual Cash Incentive Plan) included the same set of company objectives, except for an element that is role specific. This will vary year-by-year and for 2018-19 is 20%. The details of remuneration for Executive Directors is published in the Annual Report.

The Remuneration Committee of the Bristol Water Board, chaired by an independent non-executive director, provide scrutiny of the company pay policy, including executive remuneration and Long Term Incentive Plan (LTIP), which is approved by the Board as a whole annually. The remuneration details will continue to be transparently reported in our Annual Report, in a format which at least meets the principles in the UK Corporate Governance Code and other licence and legislative requirements. This provides a rigorous approach to demonstrating that reward for our people is linked to delivery of our

three customer performance outcomes (Excellent Customer Experiences, Local Community and Environmental Resilience and Safe and Reliable Supply of Water), as well as our Corporate and Financial Resilience outcome which includes efficient cost, development of our people and health and safety.

The company objectives for executive pay relate to delivery against strategic outcomes.

- Corporate and financial resilience – the company objectives include efficiency measures (such as performance against operating cost targets), health and safety metrics and people development metrics (such as community engagement and employee engagement).
- Metrics will reward performance against the key outcomes. At least one measure will be included from each outcome, with the performance trigger reflecting the ambitious target in the business plan. Example measures include:
 - i. Excellent customer experiences – C-MeX performance.
 - ii. Local community and environmental resilience – leakage, metering.
 - iii. Safe and reliable supply – supply interruptions, water quality.

We do not incentivise payment of dividends to shareholders.

The principles set out above will be amended by the Remuneration Committee of Bristol Water, who will describe the approach transparently in our Annual Report. At least 30% of both the ACIP and the LTIP components are expected to be linked to customer outcome metrics for which examples are given. At least 50% of both the company annual bonus and the LTIP components are expected to be linked to outperforming efficient cost allowances or the financial impact of outcome incentives, including the expected 30% of bonus allocated to customer outcome metrics.

The Remuneration Committee and the Board retain discretion to tailor bonus parameters from year to year. This will be reported transparently, taking into account the vision and principles set out in this plan.

Pensions

Through prudent management of our pension scheme, in coordination with Trustees, we have secured the future obligations to members through an insurance scheme. This means that the pension scheme is resilient financially and secures for members their future benefits.

Transparency and trust in delivery

A key priority for Bristol Water has been transparency. In November 2017 we published an independently assured and verified mid-year performance statement for the first half of 2017-18, reflecting the challenges we were facing to deliver the targets we set ourselves. This report included direct comparisons of our performance to the rest of the industry, reflecting our ambitions.

We were disappointed not to improve our position from the lowest tier “prescribed” status in Ofwat’s Company Monitoring Framework. Our status is viewed by the Board and management as critical to delivering our future ambitions. The Board has undertaken a thorough analysis of the reasons for Ofwat’s determination, which we acknowledge, and both the Board and management are striving to address these to elevate our position in the sector. The transparency in our annual reporting has been transformed as a result, and this statement sits alongside a new, engaging summary of our delivery performance on our website.

The Board anticipated that at a time of challenging performance and when the legitimacy of the water sector is under national scrutiny, it was essential that there was no ambiguity that customers’ interests are at the heart of our business, and it should always be clear that this is the case. A step of particular significance is for reporting of leakage performance, a measure that can benefit from improved technical data as well as operational performance. The Board has committed to ensure

that our outcome incentive payments for 2015-20 are calculated without taking into account technical adjustments that could benefit the incentive calculation. We report our actual level of leakage to reflect the latest and most accurate data, but calculate financial adjustments without taking any benefit from updated information. As part of our commitment we will reduce customer bills by c£1m in 2019 to reflect our leakage performance this year, rather than waiting until 2020. Customer bills will reduce by c£10m between 2020-25 because of the financial incentives that are linked to our current performance targets. Bills may vary from those forecast in this plan to reflect our final performance over 2015-20.

We continue to improve the quality of the information and data we publish and use to manage our business, reflecting the improvements we have made since 2014. We recognise that we need to improve the confidence that Ofwat has in our performance, given their duty to protect customers who have no choice of supplier. We believe that the package of measures in our business plan sets new standards for engagement and transparency with customers.

Communicating our performance

- We will continue to publish a mid-year performance report, which will provide an update on our performance but also include a comparison to other companies performance.
- We will get independent challenge on our performance with the Bristol Water Challenge Panel, and publish their independent review on our website.
- We will continue to participate in the Discover Water website.
- Our community initiatives form a cornerstone of our approach for delivering a resource efficient water service. This has transparency on our progress built into our proposals.
- Our sharing mechanism “*Bristol Water for All*” will make sure that there is an ongoing dialogue about how we are delivering our objectives and outcomes. This is linked to the two key areas of transparency needed about our plan – our position as the top water company (and most trusted utility) in the UK Customer Satisfaction Index, and our stakeholders’ satisfaction with our community initiatives.
- We make a commitment that where choices are faced during the period; we will engage and consult on a revised long-term ambition and updated plan. This may be important because of the cost risk where we require specific mitigation, and our proposal to cap the annual recovery of outcome incentives within customer bills. We will publish information on future bills.

as well as individual years, as we did this year within our Charges assurance statement.

- We will periodically update the interactive customer graphic on our website. We have developed a version for our business plan. The 2017-18 reporting version, together with our “Trust in Water” statement from our Board of the trade-offs faced, included a detailed description of financial funds flow as well as customer delivery, in a easy to access way. For instance, reporting on our metering performance included a link to information on how to apply for a meter. We will promote performance in this way with useful information about how we can work with customers to improve our delivery.
- We will continue the customer engagement process that we have used in developing this plan, continuing the dialogue on our performance, our future plans, and how we can increase customer participation in their water services.



Figure 122: Our interactive annual performance web page

<https://www.bristolwater.co.uk/performancefor2017-18/>

Our long-term resilience framework

Why resilience is important

Resilience is about making sure that we can resist or recover quickly from unexpected, disruptive events, both now and in the future.

We see being resilient as a fundamental enabler for achieving our outcomes, and we consider four complementary components:

Operational Resilience - the ability of our infrastructure and resources to avoid, cope with and recover from disruption in performance. It includes assets themselves, and the skills and systems required to operate them. It also relates to our stewardship of natural resources and the environment. This form of resilience is particularly important for our outcome of *Safe and Reliable Supply of Water*.

Service Resilience - the ability of our people and the business to provide excellent experiences to our customers and stakeholders. Whereas operational resilience is focused on the functioning of our assets, service resilience considers how the operation of these assets translates into customer experience. We have split operational and service resilience because how we serve our customers at times of operational and personal vulnerability is a key part of being trusted.

Corporate Resilience - the ability of our governance, accountability and assurance processes

to help avoid, cope with and recover from disruption of all types.

Financial Resilience – our ability to avoid, cope with and recover from disruption to finances.

All four components of resilience combine to support our outcome of *Local Community and Environmental Resilience*. Resilience is also one of the Governments' strategic priorities for the water sector and is reflected in a duty under the *Water Act 2014*.

How we manage resilience risks

To be resilient, we need to identify risks and opportunities, look after our assets and people, and ensure that our organisation and financing adapts to changing circumstances.

To do this we have identified future trends and factors, assessed resilience risks and prioritised mitigation measures.



Risk Identification

In *Bristol Water...Clearly*, we present a comprehensive review of future challenges to our organisation, developed considering the outcomes our customers and regulators expect us to deliver. We assessed political and regulatory, environmental, technological, social, legal and economic issues and identified over 100 factors of interest. Using insights from our horizon scanning and by harnessing the local expertise of our staff to highlight shorter-term constraints, operational resilience risks are captured in our **Strategic Risk Register (SRR)**.

Prioritising Risks

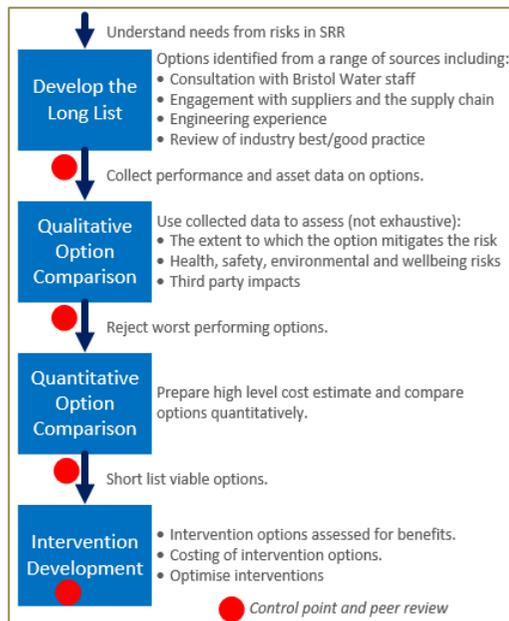
Once identified and recorded in the **SRR**, we use data analysis and feedback from customer and stakeholder engagement to verify risks. The **SRR** assists in investment planning and has been used to develop and verify this business plan. This links to our ISO9001 quality management system as well as our corporate governance framework.

We also maintain a **Corporate Risk Register** which includes specific risks and opportunities such as financial risks, supply chain risks, cyber risks, regulatory and legal risks and broader operational risks such as flooding and drought. Our four pillars of resilience are reflected in the register's sub-categories. The Board reviews this register to identify and act upon principle risks to ensure our long-term viability. Details are available in our Annual Report.

How we select best value solutions

Our approach to option development is embedded in our investment planning process and includes:

- Optioneering and Intervention Development - we consider the level of risk mitigation that an intervention provides, aligned to customer priorities and commitments.
- Intervention Costing - including linkages and control points.
- Benefits Quantification - aligned to performance commitments.
- Optimisation - assessment and selection of interventions using constrained scenarios.



To ensure we capture a broad range of options when we develop the long list, we implement a series of integrated procedures. These allow us to develop a portfolio of options across the five R's of infrastructure resilience (resistance, reliability, redundancy and response and recovery) to manage overall system performance. A resilient long-term approach involves a mix of solutions to investment and operations that adapts over time, to help manage future uncertainties in a more cost-effective way. Customer priorities play a key role in ensuring that the mix of approaches we take today do not store up problems (either affordability or service driven) for future customers. We do this by considering hard and soft infrastructure options as well as how we can enhance procedures, plans and behaviours.

Capital and operating expenditure estimates for interventions are then input to an optimiser which, along with monetised performance benefits which include customer and environmental impact valuations, optimises the investment portfolio based on user-specified constraints. This process uses a number of alternative futures and scenarios to test that we maximise whole life value, while ensuring our regulatory obligations are met and that our customers' bills remain affordable. An example of this approach can be seen in our long-term ambition document, **Bristol Water...Clearly**, as well as in our draft business plan alternative plans.

Our resilience framework

We must regularly revisit our existing plans and identify new and emerging risks to ensure we remain prepared. Innovating in how we manage risk, and in how we design and deliver schemes will be particularly important.

To guide our current and future strategies, we have developed a **Resilience Framework** that:

- Links our customer priorities and outcomes to our four elements of resilience; operational, service, corporate and financial.
- Uses Ofwat's resilience planning principles.
- Helps to identify and categorise resilience risks, and to ensure we consider a broad range of options to deliver best value solutions.
- Highlights the importance of innovation, transformation and continual improvement to all components of resilience.

Our Resilience Framework helps us to deliver the expectations that our customers, the government and our regulators have of us. A summary of our plans against our framework is given overleaf.

Customer Priorities



You give me a bill that I can afford



We get the best possible experience everytime we need you



You keep top quality water flowing to my tap



Save water before developing new supplies



Trust beyond water - helping you to improve your communities and the local environment

Our Plans

Our Plans



Outcomes



Excellent customer experiences



Safe and reliable supply of water



Corporate and financial resilience



Local community and environmental resilience

Our resilience maturity assessment

Our people, procedures, systems and infrastructure mean that we are already resilient to many of the challenges we face. We know we can do more however, and we know we need to continually improve as our challenges evolve.

To understand how well the characteristics and attributes of our organisation support resilient outcomes, we have developed a self-assessment tool to grade our current performance. Against more than 100 questions, each linked to one of our four pillars of resilience, we have scored our performance on a scale from 1 (Aware) to 5 (Excellent). The figure to the right shows where we consider our resilience approach to be most developed across operational, service, corporate and financial resilience. The figure also shows where we expect to be at the end of 2025 based on our future plans.

The results of the self-assessment indicate that we need to improve in some areas, such as how we use the performance of existing and past projects to optimise what we do in future. We recognise this issue and believe it reflects historical challenges in capturing data and information to align experience to our resilience goals. We have completely refreshed our vision and strategy and have developed our organisation to focus on these challenges. This focus includes making sure we learn from our experience of implementing change. Our transformation programme will improve all

aspects of resilience alongside other improvements to our corporate resilience.

As our resilience self-assessment shows, we are implementing a range of improvements which develop all of our four pillars of resilience.

The table overleaf illustrates how the maturity of our resilience has improved and will continue to improve as a result of our plan.

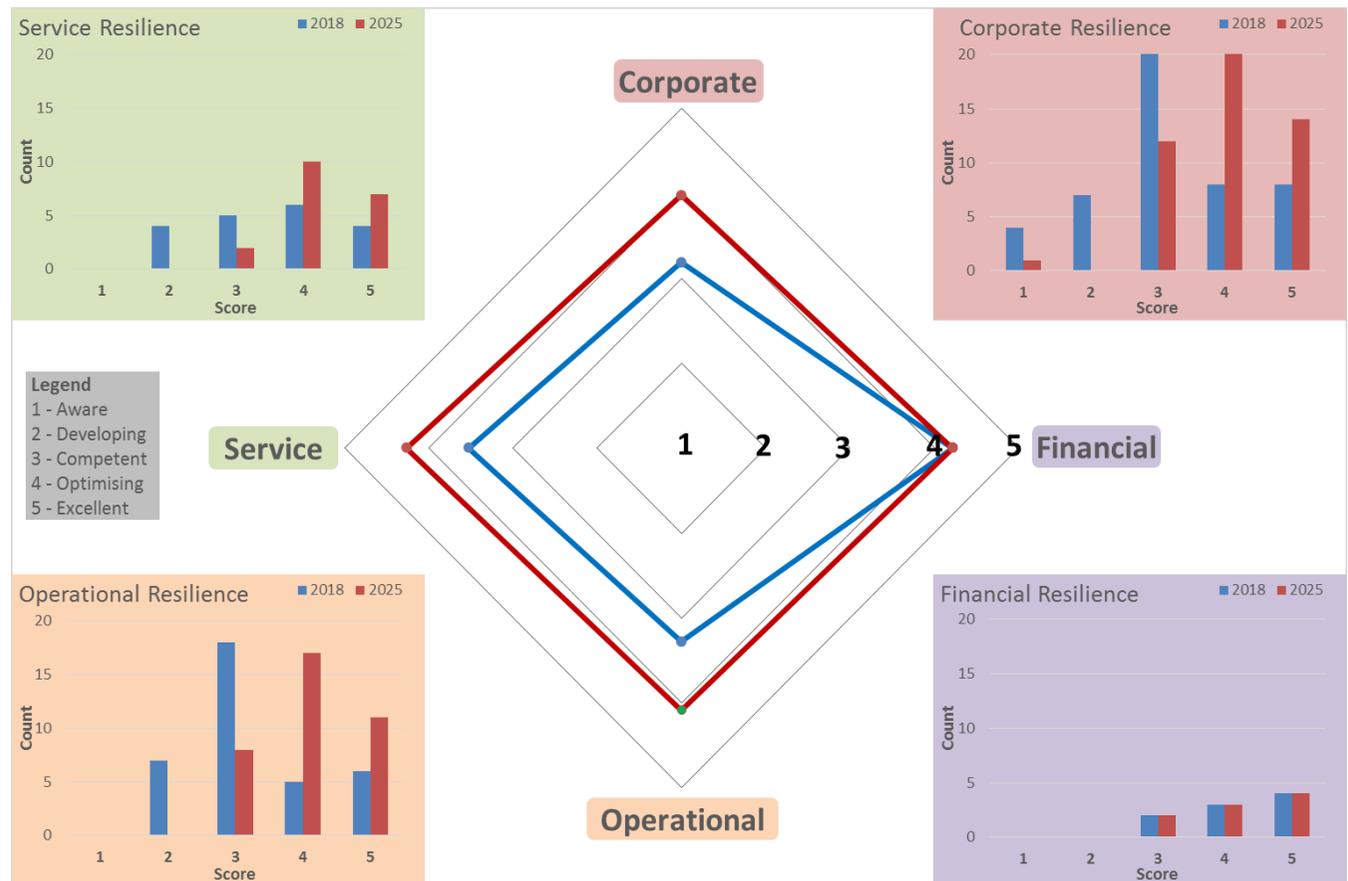


Figure 123: Corporate Resilience Improvements

	Past	Current – our journey to date	Future – as a result of this plan
Operational	<ul style="list-style-type: none"> Plan relied on age based network replacement New reservoir proposed to deliver water resource investment Supply chain contracts focus on cost Track record of innovation through partnerships 	<ul style="list-style-type: none"> Network maintenance targeted at leakage and supply interruptions Successfully delivered 25,000 population resilience protection Lagging performance on leakage, supply interruptions and metering require supply chain focus on delivery Good legal water quality and environmental track record Innovation platform driven by staff engagement 	<ul style="list-style-type: none"> Water resources balance through demand management Resilient assets for 10,000 population centres Water quality risks reduced further Supply chain focus on effective delivery with more direct employment with new competencies The workshops – incubator for local innovators
Service	<ul style="list-style-type: none"> High performance on SIM Higher than average bills Establish Pelican retail delivery with Wessex Early development of social tariffs 	<ul style="list-style-type: none"> Most trusted utility Top water company on UKCSI Effective incident response and recovery from customer perspective Zero customers in water poverty 	<ul style="list-style-type: none"> Excellent community and customer experiences Aiming to be top utility on UKCSI Focus on community as well as customer Customer and community support for inclusive services
Corporate	<ul style="list-style-type: none"> Three different investors with different priorities Data and information quality uncertain 	<ul style="list-style-type: none"> Main shareholder with long-term focus Board and leadership strengthened Focus on customer and community for corporate governance 	<ul style="list-style-type: none"> Focus on community stakeholder as well as customer satisfaction Develop our people and the business objective of Board
Financial	<ul style="list-style-type: none"> Gearing above 70% Industry efficiency outlier Historic debt cost above larger companies 	<ul style="list-style-type: none"> Gearing below 65% Efficient retail costs, and wholesale costs when considered as an integrated network Historic debt cost has offsetting benefits and customer support Significant water resource cost risk Penalties from current performance in 2020-2025 	<ul style="list-style-type: none"> Gearing c65% Financial ratios viable, with mitigations Limited new financing required until after 2030 Water resource cost risk mitigated, participating in water resource trading markets Customer support for limiting incentives exposure

Case study: demonstrating operational resilience through the way that we work

In late February and Early March 2018, the UK experienced an extreme period of cold and heavy snow fall due to a period of weather coined “the Beast from the East” by national media. The thaw that followed had a severe impact on customers, with burst pipes resulting in over 200,000 customers across the country cut off from supply for more than four hours, with tens of thousands of customers, including some businesses and public services without mains supply for days.¹²

At its peak, the event had a significant impact on our network:

- Mains bursts levels were five times higher than the average level of mains bursts experienced over the period of 14 February to 14 March.
- Leakage increased significantly and on 4 March was around 2.5 times higher than the level prior to the weather event.
- Distribution input increased significantly in response to leakage from both our mains and our customers’ pipes. Between 4 March and 6 March, our distribution input was 25% above

¹² Out in the Cold, Water companies’ response to the ‘Beast from the East’, Ofwat, 19 June 2018.

the average level in advance of the weather event.

An example of conditions in our area in early March 2018



Despite the severe weather conditions, less than 500 customers (0.08%) had supply interruptions that exceeded 12 hours. The majority of these customers were located in three tower blocks in Bristol and our ability to respond more rapidly to restore supplies was hampered by the location of a damaged high voltage cable. This compares well to the companies with the highest level of interruptions affecting over 0.75% of customers.

We had robust processes and procedures in place to deal with this type of operational event and we are pleased that Ofwat agrees that we performed well in response,¹³ minimising the impact on our

¹³ Letter from John Russell, Senior Director of Strategy and Planning at Ofwat to Mel Karam, CEO of Bristol Water, 19 June 2018.

customers and keeping our customers and stakeholders informed throughout.¹⁴

The key findings of Ofwat’s review into our performance were:

- We had sufficient resources in place throughout this incident.
- We had good visibility of the performance of our network.
- We had the capability to redirect water supply between treatment works.
- Our approach to communicating with customers and stakeholders worked well, including engagement and collaboration with Wessex Water to manage bulk supplies of water and improve the resilience of service reservoirs.

We think that this event demonstrates our operational resilience in production and network recovery through the flexibility of our assets combined with the strength of our advance planning, processes and procedures and management response. Our management tools provided visibility and control of our network. These factors in combination allowed our staff to retain the trust of our customers and stakeholders throughout this challenging period by providing excellent services.

¹⁴ Detailed information on our response to this event can be found at <https://www.ofwat.gov.uk/publication/brl-response-additional-freeze-thaw-rfi-2018-b2-2/>

Further evidence of our operational resilience through our response to events is provided through other recent case studies, such as the burst in Willsbridge in July 2017.

We always look to learn from our events and we will be building on the feedback provided by our customers and by Ofwat to contribute towards our objective of delivering customer excellence whatever the circumstances.

We have made a number of commitments following our reflections on the Freeze Thaw Event. These include:

- Communication with our customers and retailers during an event
- Availability of bottled water and provision of alternative supplies
- Provision of an incident support vehicle
- Extra care services provided to vulnerable customers during an event

Case study: Financial resilience driven by our investors

Gearing refers to the level of a company’s debt related to its equity capital. It shows the extent to which its operations are funded by lenders versus shareholders. Our debt levels are currently in the range 60-65%, consistent with notional company leverage as well as comfortably within our debt covenants. This has allowed us to remain comfortably within our key financial ratios.

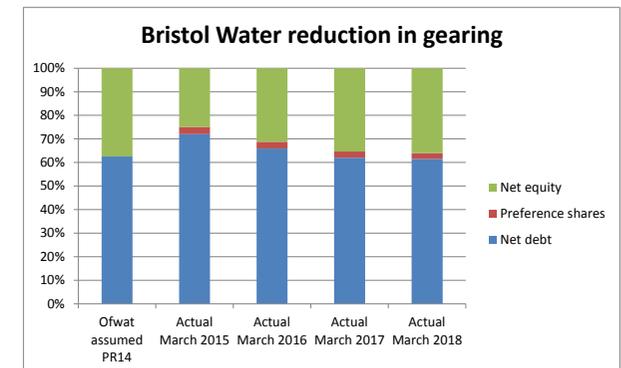
Our gearing has fallen from 75.1% in March 2015 to 64.0% in March 2018, or 61.5% excluding preference shares. Debt/RCV Gearing is therefore close to the 62.5% notional gearing Ofwat assumed for the industry at the 2014 price review.

The reduction in gearing has been achieved through the Board’s implementation of a conservative dividend policy following PR14, with shareholders’ support, to build equity and thereby increasing financial resilience. Retaining equity and reducing debt helps to increase financial resilience. Dividends were used within the Bristol Water Group to help establish Water2Business, the joint venture for the business retail market with Wessex Water. The cost of restructuring activities to allow this separate company to compete in the market was funded

using this element of dividends. The current shareholders have not received dividend payments during 2015-20.

The business market has already seen benefits in terms of improved services to retailers and business customers and helping to improve wholesale services to all customers.

Figure 124: Reduced gearing over time



Innovation and new ways of working

What innovation means to Bristol Water

Innovation is the process of doing things differently to achieve a benefit. It is more than new technology. It includes processes, procedures and, importantly, the **culture that guides everything we do**. As such, innovation is a **critical enabler** which supports all of our outcomes and promises for PR19, as demonstrated in our transformation since PR14, and our transformation programme. It also contributes to our resilience. We believe that innovation and resilience go hand in hand. Long term success depends not only on understanding risks and managing them but also pro-actively identifying cost effective solutions and opportunities.

We recognise that innovation needs to be an ongoing process, and one which can also support progressive improvement in future price reviews. That is why our innovation approach is aligned to business transformation and continual improvement, facilitated by our **Business Improvement and Innovation (BI&I)** team and our Innovation Champions engage on these topics throughout our business.

Innovation Champion role:

- Technology scout: market scanning to understand leading thinking and technologies
- Integration: promote integration of innovative thinking into business as usual processes
- Central interface: provide BI&I with a feed to the

Innovation Tracker

- Knowledge Sharing: through events such as supplier presentations, lunch and learns, intranet pages, inductions, innovation events.

BI&I function:

- Facilitation: coordinate network through, for example, group sessions and cross directorate knowledge shares
- Coaching: coaching of individuals to support technical roles and professional development
- Engagement: specialist support for members such as group visits and conferences.

Bristol Water has a strong record on innovation and the steps we have already taken have helped to drive broad benefits. For example:

- The process of **ice pigging**, pumping ice slurry through pipes to remove unwanted debris, developed in partnership with Bristol University. Today, ice pigging has many applications in the water sector and is also used in other industries such as oil and gas and food manufacturing.
- Our **Refill campaign**, where we worked with partners to develop an app which engages the community to highlight the benefits of free public access to drinking water. The campaign also supported Bristol being European Green Capital 2015.
- Our **Water Bar**, which provides access to free drinking water at community events and festivals. The Water Bar has won multiple awards and has been adopted by several other water companies.

All of these innovations are characterised by partnership working. We consider collaboration in the development of new ways of working to

be a key component of our strategy (see further details overleaf).

Our culture of innovation

We foster a culture of innovation from both the top-down and bottom-up. Our Executive Team lead by overseeing our innovation framework. To complement this leadership focus, our BI&I team works to ensure our staff always have the skills, tools and support they need. This includes:

- Providing a clear steer on the importance of innovation to achieving our goals.
- Developing means to encourage innovative thinking (our **Open Innovation** approach for example, see overleaf). Our Transformation Programme then works with the BI&I team to manage opportunities for transformation.
- Ensuring our staff have the right tools and support such as:
 - Lean process optimisation training
 - Knowledge sharing
 - Team meetings and huddles with a rolling agenda on innovation.
- Monitoring our Innovation Tracker to assess the maturity of the innovations we trial. We use the Technology Readiness Levels defined by the European Commission and the Gartner Hype Cycle to ensure we explore and implement innovations in line with our evolving maturity. The performance of our innovation programme is captured in our annual Innovation Health Check.

Our **Innovation Tracker** currently captures over 180 items which cover all components of our business, from infrastructure asset management to IT and customer teams.

Each innovation in the tracker is monitored for progress in terms of readiness and deployment. The tracker also highlights innovations with an external relevance beyond Bristol Water.

Our transition to a culture of everyday innovation is demonstrated by the success of our **Brainwaves** programme. Our staff submit ideas from across the business through the platform for review by our teams. Promising ideas are rewarded and then undergo further analysis and piloting before viable innovations are implemented and monitored to ensure benefits are realised. During 2017-18, 12 ideas were successfully implemented, including the adoption of the St John's Ambulance First Aid app, introduction of LiveChat on our website and the use of Biobullets to treat Zebra Mussels at treatment works. Other examples of recent innovation include:

- Technology for near real time adaptive operation of our networks to improve resilience, leakage and incident management - from our partnership with Imperial College.
- Robotic processes to automate repetitive tasks, saving hours of manual effort.

Innovating with our partners

We recognise that partnering with diverse and specialist organisations is key to driving innovation. Our approach is to promote **Open Innovation** by openly sharing our challenges to access the collective resources of our partners.

To provide a focus for innovative thinking, we have defined Innovation Challenges based on the outcomes of our business plan and the technology needs of our specialist teams. We then engage a range of organisations including:

- Knowledge specialists such as the Technology Approval Group and British Water.
- Our supply chain.
- Research bodies and academic institutions.
- Local groups, such as in support of Smart City work with Open Bristol.

We undertake **Open Innovation** through a number of different channels:

- Market scanning activities to identify new solutions that can feed into our business-as-usual asset planning processes.
- Innovation events: Last year we partnered with British Water to run an Innovation Exchange for suppliers to pitch their solutions to our needs. We subsequently trialled a floating work platform to eliminate scaffolding, under pressure pipe inspection technology and low maintenance chlorine and turbidity monitors.
- Publishing our challenges on our website to provide a continually available avenue for engagement.

- The Workshop: a new incubator initiative to support start-up businesses in a setting that enables failure without penalty.

These platforms and processes help to reinforce our integral role in supporting local community and environmental resilience.

Innovation in our business plan

One of our most significant innovations at PR19 is in the process of developing our business plan. We invested in an iterative and progressive approach which benefits from customer engagement and feedback at every stage.

Our business plan proposals are modest in investment terms and focus on system optimisation. We got our key stakeholders together to identify how we can pursue innovations in the market to progress the industry frontier. Some of the innovations that will affect our long-term plans for PR19 and beyond include:

- Data analytics and intelligence about our customer needs will drive us to organise our data so that it links to customers, rather than properties and assets.
- Using behavioural insight into time scarcity means that self-service for some customers will help us to better target the vulnerable customer support.
- Using our data to contribute to the Bristol smart city and local growth strategies. With better data, we can reduce leakage and also promote water efficiency. We can also

- reduce traffic disruption by sharing data on traffic disruption and our plans for works.
- Playing a greater role in community strategies, such as in renewable energy and catchment management.

A summary of our recent innovations and areas of future focus are presented in the following table.

Innovation			
Customer priorities	Customer promises	Heat map - how innovation has contributed to what we have achieved so far	Heat map - how innovation will contribute to our future plans
We give you a bill which you can afford	Lower bills for customers - affordable for all	We have reduced costs across the business, leading to lower customer bills. For example, we are reducing our energy bills by optimising our pumping activity and generating our own energy from low cost sources and we are reducing the costs of our office activities by deploying robotic process automation.	Our plan targets are stretching and require innovation to deliver them with the efficiencies we are proposing. We have built innovation into our transformation programme and will seek cost reductions by innovatively improving the effectiveness of our processes, for example pursuing minimal dig solutions on our network.
You get the best possible experience every time you need us	Achieving customer excellence	We developed the award winning water bar to engage customers around the value of water and the importance of our environment, encouraging them to reduce plastic waste.	We continue to innovate our digital offering to meet the evolving expectations of customers across the different communication channels. Using API integration of data across our supply chain will help us provide a single view of the customer
	Inclusive services that meets customers individual needs, especially when they are most vulnerable. Aiming for zero water poverty	We work in close collaboration with our customers. Our 'Beat the Bill' campaign is a way for households to see if they could save money on their bill by using a meter.	We plan to to expand our social tariff offering it to those who receive a bill via a third party rather than directly from us, such as those in supported accommodation. We will also develop a water efficiency choice platform and include vulnerability monitoring within our "smart city Bristol" contributions, through Resource West.
Saving water before developing new supplies	15% leakage reduction	We have deployed Pipe Minder technology to drive leakage down. It is the next generation of automated critical trunk main monitoring solution for leak detection and risk mitigation.	We plan to improve leakage identification through solutions such as Machine Learning enabled leakage identification. We will also pursue technologies such as advances in satellite imagery and drone technology to identify leaks.
	Metering and water efficiency promotion and support	We are using innovative, quick-to-deploy metering solutions to meet our ambitious AMP6 metering targets. We have conducted the largest study in Europe, in partnership with the University of West England of customers behaviours in water use in order to guide our activities to promote efficient use of water.	We aim to take a community leadership role for broader issues of resource efficiency and through our Resource West group, a partnership of local stakeholders such as local government, universities, other water companies and energy organisations. The aim is to bring together the shared knowledge and capacity of these organisations to deliver greater collective gains for local communities in issues of water efficiency, waste plastic reduction, energy efficiency and local resilience.
Trust beyond water – helping you to improve your communities and the local environment	Accountable to the community partners we work with for the wellbeing of society – "Bristol Water For All"	We engage with our local community through activities such as STEM (science, technology, education and mathematics), Refill campaigns, water fountains, Water Bar and Spawn to be Wild.	We will continue to participate in community activities through initiatives such as our business incubator: The Workshop, which partners with local public bodies such as West of England Growth Hub and Business West to promote growth in the local economy
	Building biodiversity and protecting our environment	We developed a unique approach to managing biodiversity which we have rolled out across our major construction programs such as the Southern Resilience Water main. We were an early adopter of the Refill campaign helping to promote the removal of plastic waste from our environment	We continue to deploy and promote the biodiversity index as well as future community based environmental programs (such as Spawn to be wild). Through extending our catchment management schemes we will improve water quality and protect the environment.
Keeping top quality water flowing to your tap	Improving water quality (including contacts for discoloration and taste)	We are exploring emerging technologies such as bio-bullets to control Zebra Mussels at our treatment works. We are working with Sheffield University on a 2 year project called PODDS to explore prediction and prevention of discoloration in distribution systems	We will continue to pursue emerging technologies such as calm DMA and real time bacteriological monitoring. We will also use better communication tools to keep our customers informed of changes in the source of water which may affect its taste
	Reducing supply interruptions to 1.8 minutes per customer (our forecast of industry top quartile)	We have undertaken a collaborative study with Imperial College London and Cla-Vai to understand how we can operate our DMAs dynamically to calm the network and improve the life of our assets	We continue to apply continuous improvement to our incident response activities to ensure that issues are resolved as rapidly as feasible with the latest technology and ways of working. Reversing valves and injection tankering – applying innovations and learning from other companies including Welsh Water and United Utilities in 2015-20 features in this plan, and allows us to cut supply interruptions by 85%.
	Resilience – boosting protection for population centres of more than 10,000	Our single supply failure ODI during 2015-20 is in itself innovative. Completion of the Southern Resilience Scheme has allowed us to make more use of our varied water resources which reduces the risk of supply interruptions and drought measures being required.	We will continue to utilise sophisticated optimisation of our assets to enhance their life by deploying more instrumentations and interrogating the improved data sets. We anticipate a change in the skillsets of our staff as we build capability in areas such as data science

High contribution
Medium contribution
Low contribution

Figure 125: Heat map showing the contribution that innovation makes to our plan

11. Delivering our plan

Our plan is challenging but achievable. Through our continued transformation we have challenged our current and likely future costs and have identified £52m of new cost efficiencies by 2025 (around 9%) while identifying new ways of working to deliver stretching performance targets.

Our plan is focussed on operating cost and maintenance expenditure, rather than major new enhancements. Transformation of how we work (supported by innovation and new technology), underpins our proposals. Our plan is fully integrated and transformational, combining a single view of our customers' needs (rather than just focussing on asset or property information) with a real understanding through our people and from our systems of how we deliver excellent services and product.

Here we provide a summary of our plans to deliver each outcome.

Excellent Customer Experiences

Our customers have told us that when they contact us we should respond efficiently and quickly, while keeping them informed throughout the process. They have also told us that our services should be inclusive, reflecting the differing needs of individuals in our communities and that we should support those customers who struggle to pay.

Our plan builds on the successful relationship we have with Wessex Water through Pelican to deliver a low cost to serve. Through a transformation in the ways our contact centres and field staff work, we will improve responsiveness while reducing cost. These changes are underpinned by system improvements which provide a 'single view' of our customers.

We already provide a range of extra care services for those customers whose circumstances mean that they require additional support or help to pay their bill. We plan to expand the reach of these services by trebling the number of customers on our Priority Services Register and by offering social tariffs to all customers who are eligible.

Through our plan, we aim to transform our customer service. As a proxy for the new C-MeX measure, we aim to become the leading utility company in the UKCSI. Our plan also responds to the needs of our retailers and developers, making the improvements which they have told us that they would like to see.

Local community and Environmental Resilience

Leakage remains at the forefront of our customers' concerns. We agree that this is a key measure of the efficiency of the Company and our legitimacy in the eyes of our customers and stakeholders. We plan to continue to lead the sector through reductions that more than offset the projections for growth within our area. We will deliver a 15% reduction through a step change in our procurement practices and by better understanding the dynamic performance of our network.

Sector leading monitoring and measurement systems to support these changes are an integral part of our plan. Though small in investment terms, the impact on leakage performance will be great. This approach supports our drive to better understand our network, and our ability to respond quickly and efficiently.

We will also build operational resilience by looking to the market to help our customers to reduce water wastage by providing better information and choice. We will continue to work with our communities to deliver our ambitions through collaboration to expand our role beyond the basic supply of water to support local community and environmental resilience.

Safe and Reliable Supply of Water

Continuity of supply is at the forefront of our customers' desire for a high-quality service. When things go wrong, they appreciate a rapid and personal response. Recent operational events, including our response to the freeze-thaw earlier this year, have illustrated how customer trust and satisfaction can be retained by responding quickly and effectively to operational issues.

We plan to both improve water quality and reduce the occurrence of supply interruptions, while making our systems more resilient to extreme events. Our plan uses a combination of both operational strategies and capital investment to improve the presence and effectiveness of our field force. Our plan also supports our staff with the right information and reduces the impediments in the mains network that can have a major impact on the duration and severity of service interruptions. This integrated approach builds on industry best practice and is demonstrated through the re-balancing of capital and operating costs in our plan.

Our continued investment in operational resilience provides system flexibility and redundancy to respond to the impact of our most significant risks to the continuity of supply. We have expanded the scope and reach of our schemes to protect population centres of over 10,000 people. We have tested these proposals and while our customers support this activity, they have indicated their preference for it to be delivered over a longer period for affordability. Our plan respects this conclusion.

Corporate and Financial Resilience

Our physical assets cannot deliver excellent customer service without the help of our people and without sound finances.

Corporate resilience requires a robust understanding of how our physical and human assets interact so that overall performance can be improved. Our corporate resilience is founded on:

- Strong staff engagement which enables effective workforce planning and inclusive stakeholder partnerships, which support identification of risks and opportunities.
- Zero tolerance for health and safety failures.
- Strong quality management systems, aligned to international standards (ISO 9001) and improvements to our cyber-security.

Financial resilience addresses solvency, liquidity, risk management, and long-term viability. We need resilient finances to maintain focus on long-term improvements, even as we deal with short-term events, and to maintain affordability for our customers. Our plan includes:

- Ambitious targets to reduce costs and increase renewable energy generation.
- The application of world class asset management to optimise our operations.
- Developing robotics, artificial intelligence and connected systems strategies.
- Supporting our supply chain through innovation partnerships (e.g. 'Smart City' Bristol).

Our plans are both supported by our Corporate and Financial Resilience, which ensures that our corporate and financial systems can avoid, cope with and recover from disruptive events; and also deliver corporate and financial resilience as an outcome of a balanced plan developed with our customers.

An integrated plan

Our plan is fully integrated and each promise contributes to each outcome. The relative levels of contribution are shown in the heat map overleaf.

Our PR19 outcomes					
Customer priorities	Customer promises	Excellent customer experiences	Local community and environmental resilience	Safe and reliable supply	Corporate and financial resilience
We give you a bill which you can afford	Lower bills for customers - affordable for all	L	L	L	H
You get the best possible experience every time you need us	Achieving customer excellence	H	H	H	H
	Inclusive services that meets customers individual needs, especially when they are most vulnerable. Aiming for zero water poverty	H	H	M	M
Saving water before developing new supplies	15% leakage reduction	M	H	H	M
	Metering and water efficiency promotion and support	H	H	L	M
Trust beyond water – helping you to improve your communities and the local environment	Accountable to the community partners we work with for the wellbeing of society – 'Bristol Water For All'	H	H	L	H
	Building biodiversity and protecting our environment	M	H	M	H
Keeping top quality water flowing to your tap	Improving water quality (including contacts for discolouration and taste)	H	H	H	L
	Reducing supply interruptions to 1.8 minutes per customer (our forecast of industry top quartile)	M	M	H	M
	Resilience – boosting protection for population centres of more than 10,000	H	M	H	H

Figure 126: Heat map showing how our outcomes are delivered by our customer promises

High contribution
Medium contribution
Low contribution

Our investment plans

Our plan is focussed on operating cost and maintenance expenditure. The expenditure is a smooth level of investment each year, which is an efficient way of delivering our investments and emphasises that even the enhancement expenditure is mostly “maintenance-like” in our delivery approach. We describe key areas of expenditure in this chapter, however these do not deliver our performance commitments in isolation as operational and service changes are just as important.

Key areas of expenditure are shown below.

Water resources infrastructure maintenance (£3m, 0.7% of totex)

The most significant activity is reservoir safety inspections – £1.2m .

Water network plus IRE expenditure (£60m, 12% of totex)

Other than trunk and distribution mains planned refurbishment and replacement, key areas are:

- Customer stop taps and pipes - £10m
- Changes to hydrants to reduce the length of supply interruptions - £3m
- Leakage control and pressure - £4m

Non-infrastructure maintenance costs (MNI)

These costs increase to reflect the timing of expenditure at our pumping stations and treatment works. MNI also delivers more network monitoring

technology and IT integration to deliver field force and supply chain information – essential for new services, vulnerable customer support ambitions and a single view of customer rather than just asset impacts. Expenditure for high level pumps at Purton and water quality maintenance at Banwell contribute to this increase.

The key **water resources** MNI expenditure (£11m, 2% of totex) is on:

- Major raw water pump replacements - £3m
- Improving reservoir amenity - £2m
- Water resource plan actions - £2m

Network plus maintenance (MNI) costs (£63m, 13% of totex)

Other than day to day works and equipment maintenance, the key areas of expenditure are:

- Replacing customer meters - £4m
- Stowey ozone plant replacement - £3m
- Banwell membrane and UV plant - £4m
- Network monitors and pressure logger - £4m
- Purton High Lift Pumps - £4m
- Crypto membrane plant refurbishments - £2m
- Integrated applications – API enables us to connect data across systems to delivery partners (e.g. water efficiency platform) - £4m

Enhancement capital expenditure (£45m, 9% of totex)

The amount of enhancement capital expenditure falls from £79m in 2015-20 to £45m in 2020-25. Major enhancements are:

- Water resource – abstraction and WINEP programme - £7m
- Optional and selective metering -£9m
- SEMD (infrastructure security) - £0.5m
- 10,000 population centre resilience - £12m
- New developments (net of developer contributions) - £14m

The DWI quality programme:

Key components are:

- Alderley TW plumbosolvency - £0.5m
- Cheddar TW algal bloom trial extension -£0.5m
- Lead pipe – nurseries and quality - £0.5m
- Catchment management – metaldehyde -£1m

The enhancement programme reflects current efficient costs and has been benchmarked externally. Detail is provided for each investment case in Section C5. The resilience investment is the only “optional” enhancement component that is service driven. This is reflected in a specific outcome incentive as set out in Section C3. The metering programme is also cost beneficial and is reflected in its own outcome incentive. The DWI quality programme is reflected in the CRI outcome incentive. The WINEP programme has its own incentive, with the innovative *raw water quality* and *Biodiversity Index* targets going beyond legal compliance.

Delivering long-term asset health

The main bulk of wholesale expenditure delivers on-going asset health. We plan to replace or renovate around 20km of our mains each year, which is c0.3% of our network.

In the detailed evidence supporting our plan we demonstrate that this level of network replacement is appropriate for the long-term, and remains sufficient to deliver stable network asset health, as well as our supply interruptions, leakage and mains burst planned performance improvements. This is below the level of additional mains we restored over 2012-2015, which amounted to c1% of our network p.a.

Our recent experience suggests that this level of replacement represented a backlog of expenditure which is not required in the future to deliver the targets we have set. We have checked our approach based on benchmarking against water companies in the UK and around Europe.

This benchmarking suggests we have the oldest average age of network in Europe (see Section C5 for details), reflecting the history of the company, but we are also upper quartile on network cost efficiency and leakage performance. We are confident therefore that our proposed network expenditure is both efficient and effective. We have identified 8% efficiencies for all capital expenditure, and will also absorb 0.9% of above CPIH inflation cost pressures, offsetting these through future efficiencies.

Therefore, infrastructure renewals capital expenditure falls from £68m in AMP6 to £64m in AMP7. This is in part due to additional one off expenditure due to the exceptional weather in 2017 and early 2018, but also reflects our efficiency target, and reallocation of leakage expenditure to operating cost as our 12% reduction in 2015-20 is completed (which is a regulatory presentation as the IAS accounting treatment is the same).



Figure 127: Trunk main at Rowbarrow

Expenditure and priorities

The table on the right provides a summary of total expenditure. Around 60% of our investment programme relates directly to specific performance commitments and priorities. The remainder of the investment relates to asset health and maintenance. The DWI investment programme for instance is linked to legal water quality obligations and is considered in our Compliance Risk Index penalty only ODI.

	Unit	AMP6	AMP 7 - Appointee - Actual Spend					CMA AMP6	
		2015-20	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25	2015-20
Price Base 17/18 CPIH post efficiency									
Wholesale Opex	£m	258.7	54.6	54.6	55.0	55.4	56.0	275.6	260.2
Maintaining asset capability ~ infra	£m	68.4	12.7	12.8	12.9	12.8	12.3	63.5	57.9
Maintaining asset capability ~ non-infra	£m	66.0	14.2	14.3	14.3	14.9	15.8	73.5	64.2
Enhancement Capex	£m	99.1	12.3	11.5	11.9	11.4	11.4	58.5	130.6
Grants and Contributions	£m	(20.0)	(2.8)	(2.7)	(2.8)	(2.8)	(2.9)	(13.9)	(30.8)
Wholesale Totex	£m	472.2	91.0	90.6	91.4	91.6	92.7	457.2	482.1
Retail Opex	£m	50.3	8.6	8.8	8.8	8.9	8.8	44.0	52.1
Retail Capex	£m	2.5	1.2	0.2	0.2	0.2	0.2	1.9	2.8
Totex	£m	525.0	100.8	99.5	100.4	100.7	101.7	503.1	537.0
Opex	£m	308.9	63.2	63.4	63.8	64.3	64.9	319.6	312.2
Capex	£m	216.1	37.6	36.2	36.6	36.4	36.8	183.5	224.7

Retail capital investment falls, as half of our billing system and customer journey investment has been accelerated into 2019. These costs are delivered through Pelican and therefore are shared with Wessex, although investment is also included to meet the specific needs of our customers.

Most investments link to multiple priorities, but the diagram opposite demonstrates how the major areas of our investment plan contribute to performance commitments and customer priorities, where there is a direct relationship. Customer experience measures do not directly require new investment.

Figure128: Summary of total expenditure

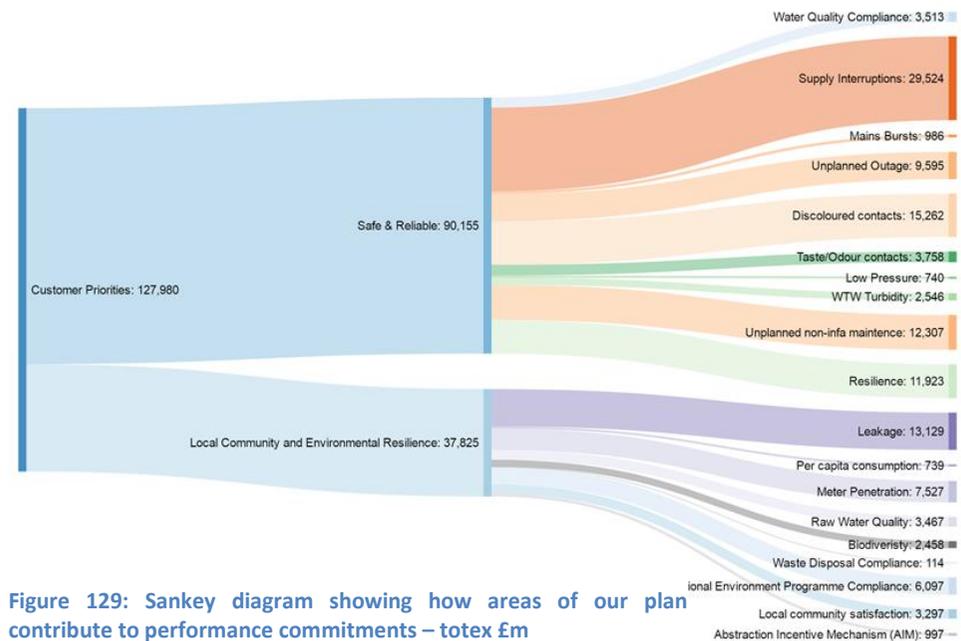


Figure 129: Sankey diagram showing how areas of our plan contribute to performance commitments – totex £m

Continued transformation to deliver our plans

Our Board, recognising the ambitious nature of our plan, oversaw the development of a transformation programme organised independently of the plan preparation in order to ensure it could be delivered. The hard choices made in arriving at our final plan are based on both projects.

Our plan is maintenance and operating cost based as this is the least cost way of using what we already have, and emerging technologies for asset and customer interfaces. The transformation programme helps us to embed this.

In order to deliver the targets and subsequent customer outcomes we have committed to in our Business Plan we will continue to transform our business. Bristol Water has changed and improved significantly over AMP6 by transforming many functions and improving efficiency. This process of change will only increase as we move through the end of AMP6 and into AMP7. To do this we have created a Transformation Function that is an important part of our organisation, building on the Continuous Improvement approach we took during AMP6. This function will be a centre of excellence for transformation, business change and project management capability. It will support and drive all transformation activity across the business, taking concepts through to implementation and tracking delivery and performance. It contributes directly to around £21m of the £52m of efficiencies in our plan, and £4m of additional capital investment is included

in 2018-20 in order to deliver these efficiencies and service improvements. The remainder of the efficiency delivery is part of 'Business as Usual'. For instance, £5m of retail efficiencies have been jointly agreed as targets with Wessex Water through the independently run Pelican. Other efficiencies are delivered through commercial contract and procurement activities, Continuous Improvement, IT business as usual improvements, network technical innovations and whole life cost savings built into the investment programme.

The affordability priority is delivered through these efficiencies, which are largely focussed on reducing the cost of production and network management. The transformation function itself delivers savings as it reduces reliance on external change delivery, recognising that there is a continuing need to change the way the business is organised. This is a key innovation from our plan, as it is unusual for a small organisation such as Bristol Water to dedicate so much resource to Project Management for business delivery. This reflects our recent experience of transformation and the challenging targets set out in our plan. It also emphasises how the Board only proposed this plan based on challenging management how it could deliver both service improvements and cost reductions, given the risk of financial returns and the requirement for, and assumption of, further shareholder support being required if the programme did not deliver.

The contribution of this approach to our plan delivery against our Customer Priorities and Promises is summarised in the "heat map" below:

At any one time, transformation resources will be focussed on a major programmes and projects that give the business the best chance of driving the required step-change in performance and efficiency, and those that clearly contribute to our business objectives and customer priorities.

The Transformation Function will:

- Shape, co-ordinate and drive an integrated transformation portfolio for the company
- Establish strong governance and change control processes allowing new priorities to be integrated and delivered
- Act as the business conscience, joining up the different pillars of activity and managing interdependencies, risks and scope overlap between the various projects
- Have an overarching view of progress against plan at a portfolio level, and provide central project management expertise.
- Provide central tracking for a consolidated view of benefits and deliverables across the portfolio

The Current Portfolio

The current portfolio includes 21 key projects across several business areas that will drive significant efficiencies and capability enhancement across the organisation. The range of projects is diverse in terms of size, type and complexity. The projects are also at different stages of delivery and maturity as would be expected. Some detail is outlined below to bring them to life.

Network

In Network Operations we are fundamentally redesigning how we manage our network and serve our customers. We already have a significant amount of network innovation, including 15 minute detailed data on leakage from our network available daily for central monitoring. We already run on technology, and how we use it and share it with others to drive cost and service improvements is a step we know how to take. We are redesigning our supply chain to ensure we will have management and control of customer contact and customer delivery, both for Bristol Water employees and the third parties we work with. We will have improved job visibility at all stages of work and be able to make effective decisions for the benefit of the customer, improving end to end delivery time, cost per job and job quality.

We are establishing new ways of working in the field that will drive a step-change in productivity and performance, from improved monitoring and control using innovative technologies to new cultural ways of working. For example we are creating a Network Operations Centre using established continuous

improvement methodologies to make performance data visual and accessible to all, enabling real-time interventions. We are changing performance conversations by using commitment based methodologies to drive effective resolution and collaborative working. These activities will directly impact our customer promises to reduce leakage by 15% and promote and support metering and water efficiency activity. Improved productivity will drive overall efficiency. Insourcing of front-end delivery activities and their management, outsourced in 2014, will result in a c25% increase in direct headcount, but effectively gives greater control over costs that are already indirectly incurred.

To underpin this activity we are rolling out a new mobile works solution that will give us the right tools to do the job. This solution will support customer experience improvements and enable optimised working practices as well as providing a platform for innovation. Specifically this will enable job visibility, effective information sharing and data capture that will contribute to a more informed customer experience and the ability to drive efficiencies through better decision making. To ensure all of this change can be embedded and sustained, we are reviewing and delivering fit for purpose processes, organisational design and resourcing. These changes are already well underway.

Production

In Water Treatment our focus is on optimisation, using a range of initiatives at site and process level to drive financial efficiencies, build resilience in our supplies and improve water quality. Some examples

of projects that are already being implemented include:

- Whole-system optimisation – optimising the water sources we put into supply dependent on cost and risk. For example, by maximising the use of the lowest cost works when appropriate.
- Criticality based maintenance - this involves identifying our critical assets, determining appropriate maintenance schedules and ensuring the best approach to maintain them effectively and efficiently for least whole life cost.
- Chemical optimisation – optimising the use of chemicals to reduce spend and protect the environment (and our people), while still delivering high quality water to our customers.

Energy

Our initiatives and innovations to maximise energy efficiency both in terms of the energy we use and the amount we spend on it. Some examples of projects in this area include:

- Solar generation – investigating the opportunity of generating solar power on our sites either by leasing or purchasing solar panels.
- Power generation – establishing our own gas fired electricity generation on-site at Purton.
- Pump schedule optimisation – optimising the way we use our pumps, looking at the times we use them so that we use them when energy prices are low, and forecasting our efficiency savings and opportunities.

- Purchase agreements - maximising our purchase agreements for energy through the supply chain to achieve maximum value.

All of these projects contribute to efficiency savings, business resilience and protecting our environment, directly linking to our customer promises. We look to deliver wider commercial benefits through market engagement, as well as delivering lower cost to customers.

Customer

Customer expectations continue to change and evolve. We are revolutionising our customer experience model having regard to practices, processes and culture of the best customer focussed organisations. The programme is made up of a number of constituent projects and supporting activities which include a new website, better management of digital channels, an integrated single view of the customer, cross channel analytics and portals for different customer types, including retailers and developers. We will deliver better services and respond faster through end to end case management by optimising current customer interactions, while simultaneously providing the customer with timely access to job status information within their channel of choice. We provide five different channels for customers to communicate with us through (telephone, email, letter, webchat and social media).

Our customer programme will address these changes to ensure that we provide inclusive services

that meet individual customer needs in a cost effective manner. A blend of business and technology projects will collectively deliver our customer vision and the outcome of Excellent Customer Experiences.

There are four key elements to this programme:

- Mapping our customer journeys – a smooth process that avoids unnecessary effort for us and the customer.
- Reviewing and enhancing platform capability and compatibility – smooth customer journeys whatever channel they choose to use.
- Integrating these seamlessly into the business so that, for example, any employee that interacts with a customer can do so fully informed of all previous interaction and the status of any pending activities.
- A single view of the customer to target choice and market opportunities, as well as inclusive service integration recognising that all customers have the potential to be vulnerable in circumstances that may involve interactions with us.

This programme is due to be fully delivered within the next two years and therefore provide a key foundation stone for customer service delivery in 2020-25. Future requirements will be assessed through the duration of the programme and built into a longer term programme of work where appropriate.

The Customer Programme will directly underpin customer priorities and promises. Providing channel

choice contributes to our customer promise around inclusivity and meeting individual customer needs, ensuring they get the best possible experience. Portals for different customer types will ensure we meet customer needs by giving them confidence to engage with us in their channels of choice, at times and in ways that best suit them, making us easy to do business with.

Our digital channels will support the promotion and processing of metering and water efficiency campaigns, making it easy for customers to understand their choices and what it means for them and helping us to save water. This programme will also enable customers to be better informed about work or issues in their area and equally keep us informed of any changes to their water supply, helping to keep top quality water flowing to the tap.

For instance, we already provide detailed water quality, roadwork and leak information on-line. We use the best industry platform for presenting data (digdat, which is part of Anglian Water Services), and then combine it with our central information platforms. Because we are a small and agile company, we can use the latest technology from a range of partners.

This means we can easily connect to stakeholders’ systems, something that underpins some of our ambitions linked to “One City Bristol” to address traffic congestion and to use data to improve housing stock in Bristol, something that will help to deliver our long term lead pipe replacement strategy. Our focus on cyber security and data protection within our resilience framework will help us work with others in a way that protects customers’ data at all times.

Engagement

The most important part of our transformation activity is engagement, and the development of our people. We do this through the link between transformation and innovation. The transformation project will monitor delivery and use our Brainwaves innovation platform and the innovation hub.

In the heat map below, we illustrate the level of contribution from each key element of our transformation programme to the achievement of customer priorities and promises.

Transformation									
Customer priorities	Customer promises	Production	Network	Customer 360 view	Knowledge & Asset Management	Supply Chain	Systems	People	Transformation Function
We give you a bill which you can afford	Lower bills for customers - affordable for all	H	H	L	M	M	L		M
You get the best possible experience every time you need us	Achieving customer excellence	L	H	H	L	H	H	H	H
	Inclusive services that meets customers individual needs, especially when they are most vulnerable. Aiming for zero water poverty		M	H	M	M	H	M	M
Saving water before developing new supplies	15% leakage reduction	H	H	H	H	H	H	M	H
	Metering and water efficiency promotion and support		H	H	M	H	H	M	M
Trust beyond water – helping you to improve your communities and the local environment	Accountable to the community partners we work with for the wellbeing of society – 'Bristol Water For All'		H	H		M	H	H	L
	Building biodiversity and protecting our environment	H	M		H	L			L
Keeping top quality water flowing to your tap	Improving water quality (including contacts for discolouration and taste)	H	H	H	H	M	H	L	M
	Reducing supply interruptions to 1.8 minutes per customer (our forecast of industry top quartile)	M	H	H	H	H	H	M	
	Resilience – boosting protection for population centres of more than 10,000	H	H		H	L			L

High contribution
Medium contribution
Low contribution

Figure 130: Heat map showing how our outcomes are delivered by our customer promises

Cost and efficiency

We have delivered a step change reduction in the cost of our operations since 2015. In the first part of this chapter above, we described how we will deliver further reductions in the cost to deliver alongside improvements to the service levels we provide.

In the second half of this chapter we describe our costs and efficiencies in more detail, including the evidence of our current efficiency position. We approached the development of the costs for our plans in two ways. We looked “top-down” at the industry evidence for our efficiency position relative to others. We also looked at external forecasts of both input price pressures, and how the industry frontier of efficiency may change in the future. We used a mixture of specialist advisors and internal challenge and review of our delivery plans.

We also considered cost needs and efficiency “bottom-up”. This considered the business need for investment and the source of the information used, including internal and external validation, to forecast the cost of the investment activities that make up our plan. Operating costs include the whole life cost benefit of the investment programme, plus detailed review of our potential to make further efficiencies.

Our approach to transformation informed the judgements the Board considered for the efficiency assumptions we made, both the top-down estimates of our efficiency position and our bottom-up estimates of what the individual investments and initiative costings were expected to deliver.

We considered our actual costs against what the efficiency models available to us appeared to suggest in developing our cost adjustment claims. We have updated the claims since our early submission, but only for further work that we clarified we were undertaking to ensure the claims were consistent with the final assumptions in our evidence, and 2017-18 actual expenditure information.

For wholesale capex our plan absorbs all of our forecast input price pressure above CPIH, through a 0.9% p.a. frontier shift as well as a 9% initial cost reduction. For residential retail, we include a 6% initial efficiency targeted at reducing bad debt and c0.4% p.a. frontier shift, after input price pressure of c2% p.a. Overall, the net cost increase is c0.4% p.a., effectively a frontier shift of 1.6% p.a. when compared to CPIH inflation. For wholesale opex cost, input price pressure of 1.8% above CPIH is offset by a 0.7% p.a. frontier shift of efficiency, as well as a 3% initial efficiency reduction. We have focused on how efficiency can be delivered for the start of 2020-25.

This reduces bills quicker than not assuming any efficiency reduction to our current costs before 2020, although this then reduces our forecast of the scale of efficiencies that are likely to be achievable over the remainder of 2020-25.

Our plan reflects the cost of delivering service improvements and fairly reflects the cost of the resources needed to deliver resilient services. Our efficiency assumptions also reflects that there are no major one-off capital interventions in our plan, as we have completed the most significant component of our resilience investment and our Water Resource Management Plan can be delivered through demand management and leakage reduction. The transformation programme means we assume cost reduction at the start of AMP7, rather than a higher frontier shift efficiency assumption.

Through our continued transformation we have challenged our current and likely future costs and have identified £52m of new cost efficiencies by 2025 (around 9%), assuming that around 80% are delivered from 2020.

Efficiencies	Initial efficiency from 2020	Efficiency p.a. after 2020	Overall per annum 2020-25 “efficiency shift”	£m efficiencies	Annual real price effects above CPIH (except retail)
Wholesale water opex	-3.2%	-0.7%	-1.2%	£22m	1.8%
Wholesale water capex	-8.8%	-0.9%	-2.5%	£26m	0.9%
Residential retail opex	-6.6%	-0.4%	-1.6%	£4m	2.0%
Residential retail capex	-0.3%	-0.3%	-0.3%	£0.02m	0.7%

Figure 131: Efficiency Assumptions

Our wholesale efficiency position

We have focussed our estimate of the current efficiency position on base maintenance and operational costs (known as Botex). Most of our areas of enhancement investment are investigations, or improvements such as our supply resilience expenditure that are similar in nature to our maintenance expenditure. Industry information on unit costs, where available, were used to support our costing of other enhancement investments such as the water quality schemes, and this formed the basis for DWI support for these schemes, prior to us considering programme level efficiency challenges.

The most recent econometric cost benchmarking for the industry suggests that overall for water wholesale costs, Bristol Water is at the upper quartile of cost efficiency for the industry. This is based on considering our wholesale water cost position as a whole. For our plan this reflects the integrated nature of wholesale services and the interdependency on water treatment with water resources costs in particular, as our planning approach considers costs as a whole, appropriate as we are not considering major new water resource schemes. There are two principal features of Bristol Water to be aware of when looking at efficiency to ensure a representative view:

- Water resources: our purchase of a significant amount of our water from a third party requires specific consideration.
- Improvement in efficiency: as a result of our transformation, costs before 2015 do not reflect our current business approach or level of efficiency.

Based on analysis of the Ofwat form of cost models in the PR19 cost modelling consultation (based on 2011-2017 data), the improvement in our cost efficiency can be seen. Looking at the average cost over the period, Bristol Water is above the upper quartile of industry efficiency (represented as 0% in the graph below, with a positive number representing higher costs). Overall Bristol Water is c2% lower (more efficient) than the industry upper quartile based on 2016-17 costs. Therefore our current costs in 2016-17 have been used as the basis for our bottom up consideration of our cost base, in particular for operating and maintenance costs. On this basis we therefore expect our plan to be efficient.

We are an outlier compared to industry costs on water resources wholesale Botex costs. In our response to the Ofwat cost modelling consultation we indicated that we are likely to remain an outlier in water resources efficiency measurement, including because of the additional costs we pay to the Canal & River Trust. We propose that these costs could usefully be excluded from the cost modelling, or adjusted through our proposed cost adjustment claim. We show below the same graph with water resources removed given this.

The Bristol Water cost transformation from a position of being an outlier at PR14 has resulted from improved operating performance and a move away from an “age-based” to “risk-based” approach to infrastructure maintenance.

This has allowed a much more balanced set of outcomes and cost delivery appropriate for a totex framework. Accordingly, this change of approach means that cost expenditure before 2015, particularly on treated water distribution maintenance, has little relevance to the future investment programme. To a degree, additional mains replacements over 2013-15 reflected a catch-up in investment on earlier periods and this volume of activity is not reflected in our future plans. Our network age and materials cost adjustment claim sets out this level of “atypical” historical expenditure. Therefore we consider that our more recent efficiency modelling position is a better reflection of Bristol Water’s relative efficiency than the average data over 2011-17.

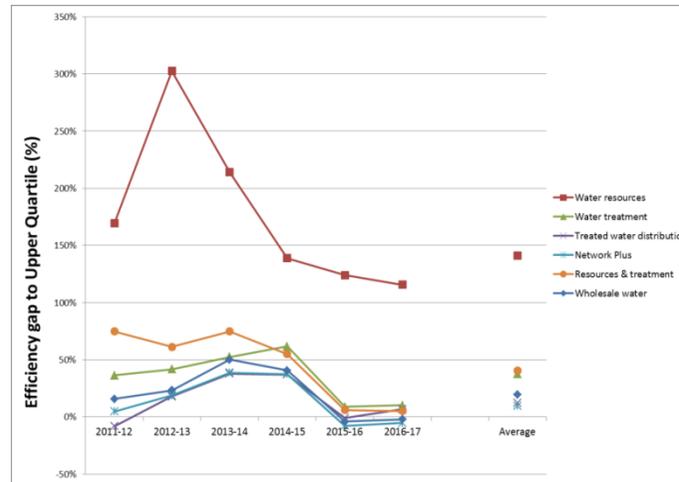


Figure 132: Bristol Water wholesale efficiency gap to upper quartile

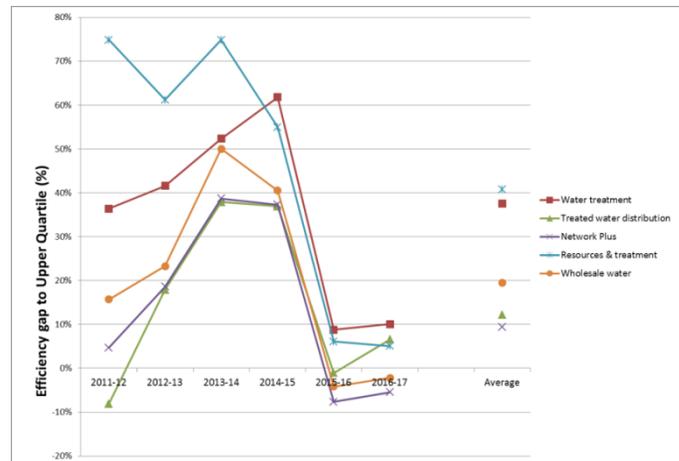


Figure 133: Bristol Water wholesale efficiency gap to upper quartile excluding Water Resources

As we believe our plan to be efficient as a whole, our cost adjustment claims depend on the form of modelling that Ofwat ultimately undertake. If the costs in our plan are accepted as a package, we would not require detailed review of the special cost factors to improve the relative efficiency position, this being a balanced position given the recent improvement in efficiency.

Our cost adjustment claims are summarised below. We have no retail or enhancement cost adjustment claims given the nature of our plan, and all of these claims have been reflected at previous reviews. All of the claims are linked to the final econometric model approach taken, with the exception of the canal cost.

Our retail efficiency position

Our residential retail costs benefit from our joint delivery of retail services with Wessex Water through Pelican. We worked with Economic Insight to develop econometric models to understand our efficiency position. Economic Insight identified a range for our efficiency position, depending on the model used from 0% to 8.4%, and we adopted their central estimate of 5.4%. In practice most of this efficiency applies to bad debt, and we are targeting a £2m saving over 2020-25 from an improvement in collection rates from 96.6% to 97.1%. The Ofwat efficiency modelling consultation also included a range of efficiency models, and we have also carried out unit cost calculations.

Overall our costs appear to set the frontier of efficiency for total retail costs and retail costs without bad debt, but depending on how deprivation is adjusted for there were a range of bad debt cost efficiency positions. As with wholesale costs, we believe that retail modelling should be on a whole business totex basis, rather than separating out individual cost elements, in particular bad debt and debt management modelling separate from the rest of the retail cost base (which for instance includes wider vulnerability and social tariff cost delivery). The latest unit costs for 2017-18 appear to confirm our retail efficiency position (based on the average basis used at PR14) and are shown in the table below.

Cost adjustment claim	Totex value over 2020-25	Reason the claim is required
Canal and River Trust costs (water wholesale resources)	£9.4m	Additional cost of payments to Canal and Rivers Trust not made by other companies.
Water treatment (water wholesale network plus)	£6.0m	Additional Bristol Water costs at the most complex works, claim not required if complexity level 5 is in efficiency models.
Regional wages (water wholesale network plus)	£0m - £8.7m	Only required if regional wages is a factor in the final model, which was not the case based on the Ofwat March 2018 cost modelling consultation.
Network age and materials (water wholesale network plus)	£12.3m	Network age and materials mix in certain periods which are higher in Bristol than elsewhere. May not be required depending on model approach taken.

Figure 134: Summary of cost adjustment claims (£m)

£/customer 2017-18	Bristol cost per customer	Industry average
Unmeasured: Debt & Debt management	8	9
Unmeasured: Other retail	11	13
Measured: Debt & Debt management	6	7
Measured: Meter reading	1	2
Measured: Other retail	12	16

Table 5: Unit costs 2017-18 (£)

Relative price effects

Our plan seeks to at least maintain our current industry top quartile position. In addition to this, NERA estimated a frontier shift for industry productivity of 0.6% for capex and 0.7% p.a. for opex. The KPMG/Aqua work for Ofwat suggests a wider range for frontier shift of 0.4% - 1.2%¹⁵. We were not persuaded by the KPMG/Aqua analysis of a larger totex/outcomes frontier shift, although to a degree this challenge has been embedded in the bottom up efficiency estimates we describe earlier. Therefore we believe that our estimates for frontier shift are appropriate for adoption assumptions for our plan.

With the expert advice of Economic Insight, we also set out an element of input price inflation on retail costs equivalent to 1.95% p.a. This is a gross input price pressure, which after frontier efficiency from current future innovations results in a net of 0.45% p.a. retail cost increase.

More information on these studies is provided in Section C5.

¹⁵ KPMG and Aqua (2017) [PR19 - Innovation and Efficiency Gains from the TOTEX framework](#) p. 19

Summary of cost changes

The table below explains our overall cost movements for wholesale water (excluding £3m principal use recharges between wholesale and retail).

Infrastructure maintenance reduces from £68m to £64m, which reflects the efficiencies net of leakage accounting transfer. Non-infrastructure maintenance increases from £66m to £73m, reflecting maintenance needs and the systems investment required to deliver our customer outcomes. IT investment is c£11m of this total.

Retail costs stay broadly stable at £49m, with input price pressure (with no indexation) of £4m offset by bad debt efficiencies of £2m and other efficiencies of £2m. Retail capex of £2m reflects ongoing costs (e.g. for vehicles) of £0.2m p.a. together with the completion of the investment in a new billing system with Pelican in 2020-21 of c£1m.

Wholesale opex cost changes	Total 2020-25	Comment
2017/18 base operating costs	£266.2m	Based on the £53m expenditure in 2017-18
Impact of investment plan	£0.2m	Little net change from new investments including whole life cost. Ongoing operating cost of new schemes from some enhancements offset by
Accounting transfer for 2015-20 leakage	£3.5m	Active leakage control to meet 12% reduction in 2015-20 becomes opex from 2020
New connections	£3.0m	Wholesale cost of serving new properties over 2017-25, which includes cost of more staff needed to respond to customer enquiries, and cost of
Business retail costs	£3.5m	Transfer of developer services costs and overheads from business retail following retail exit
Input price pressure	£25m	1.8% p.a. above CPIH
Efficiencies	(£22m)	1.2% p.a. average
Total	£279m	(Total includes c £3m recharges to retail)

Figure 135: Summary of wholesale operating cost changes

Spotlight on markets

The nature of our capital programme means we have no schemes suitable or large enough for Direct Procurement markets. The separation of wholesale price controls has allowed us to focus on the procurement of water resources separately from demand management in network plus. We consulted on our Bid Assessment Framework in advance of submitting our business plan as part of this process.

We have recently gone to the market to test out different delivery models for leakage, metering and other aspects of our network delivery model. This procurement will follow the approach set out in our Bid Assessment Framework – reflecting that the increase in operating costs we forecast to deliver our plan requires market testing. The new contracting arrangements will include delivery of the outcome incentives as a fundamental requirement, rather than being a least price fixed cost. We will refine our Bid Assessment Framework as we transform.

We are also exploring with the market through our Bid Assessment Framework whether we can mitigate our water resource cost risks, although this appears unlikely.

12. Affordability, financeability and balance of risk and return

Through the hard choices we have made, our plan strikes a balance between an affordable and stretching plan supported by customers with a plan which is financeable and provides fair returns to shareholders.

Introduction

In this chapter we set out how we have developed a plan which is affordable to our customers. We also set out key financial information relating to our plan.

We propose both a sharing mechanism related to gearing, adopting Ofwat’s proposals in the “putting the sector back into balance” consultation, as well as a **‘Bristol Water for All’** reinvestment mechanism. We present specific and well justified risk mitigation proposals that are in the long-term interest of customers, and are necessary to ensure an appropriate balance of risk and return.

Affordability

Average household bills are forecast to reduce by c4.5% in 2020 from £183 to £175, although this is 5.3% after taking into account the early pass back of £1.1m of leakage penalties in 2019-20. By 2025, bills are 6% below 2019-20 levels

Average Bill Levels (2017-18 FYA CPIH deflated)

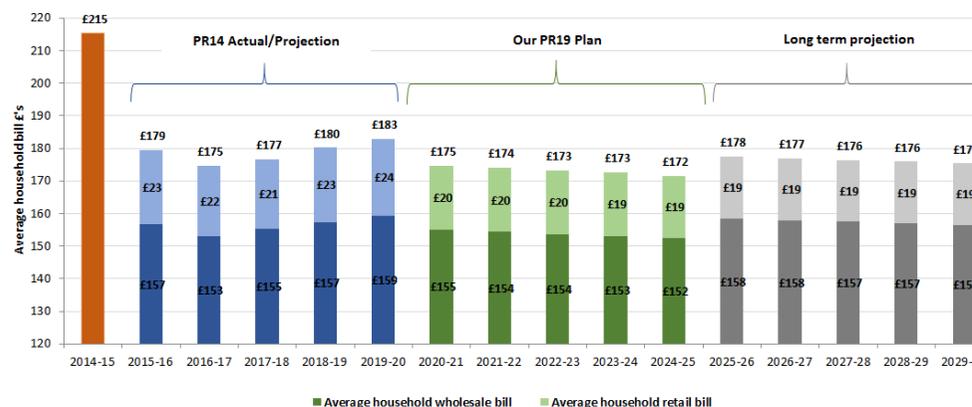
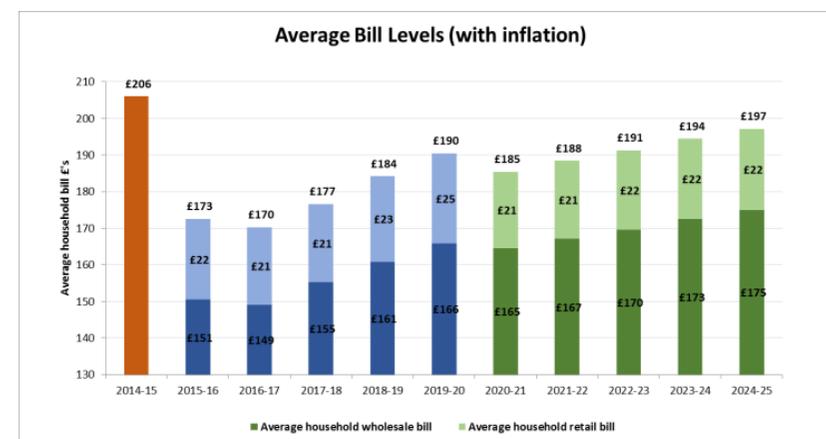


Figure 136: Average household bill (including inflation) CPIH deflated

before inflation (7% before the early leakage penalty return). The bill profile and the approach to financing helps to avoid a repeat of the recent above RPI bill increases that have followed the initial reduction of bills that occurred following the PR14 one-off price cut. Our evidence suggests that this has affected meeting our ‘value for money’ performance commitment in 2015-20 and so we are keen to see annual below CPIH bill changes in 2020-25, rather than to engineer a bigger initial price cut. Financial risk as well means this is not in customers’ long-term interests.

Bills at the start of 2025-2030 are then expected to increase by c3% (without considering any bill smoothing) due to the ending of revenue adjustments from AMP6 over 2020-25. With relatively minor changes in between, bills in 2030 may be similar to those in 2020, before CPIH inflation.

Figure 137: Average household bill (including inflation)



We expect relatively stable bills, based on assumptions of modest on-going future investment needs in our area. This is because:

- We are already or will be by 2025 amongst the top performers in the key areas of service customers have told us that matter most to them.
- We believe there will be, other than lead pipe replacement, little additional cost from the potential update to the EU Drinking Water Directive. We believe the lead pipe investment can be delivered over a long period of time to avoid disruption to customers.
- We are improving land, river and reservoir habitat biodiversity, which with catchment management means we are not likely to see abstraction reductions.
- Our Water Resource Management Plans includes a surplus of supply over demand, and we have a potential with the development of water trading to use this to reduce customer bills.
- We continue to improve asset and supply resilience, and have strong operational resilience (for instance clear plans to reduce the remaining customers in population centres greater than 10,000 at risk of significant water supply interruptions at the risk of critical asset failure). Financial resilience will continue to improve based on the package of measures within our plan.

With inflation, bills are as shown in Figure 136. By 2025, average household bills stay £9 below the level they were in 2015. Building on our current level of zero customers appearing to be in water poverty, with customer support for a 12,000 increase in the number of customers on our social tariffs to all of those potentially eligible, we believe that our plan is affordable for current and future customers.

We recognise that affordability is a major concern for some of our customers. On average, bills decreased by c17% in 2015 and have increased by less than RPI inflation since. Over 2020-25, average customer bills will be lower in absolute terms than they were in 2015, while we are investing in improvements to services.

After consulting with customers on our draft business plan and the research presenting a range of service options with bills ranging from £180 to £231 (with a suggested level of service with nominal bills at £209), we have challenged ourselves even harder on efficiency and have identified ways we can deliver customers priorities at a lower cost that we cautiously used when consulting with them. Our revised proposals deliver their service preferences at a lower cost, with the cost of improvements more than offset by cost and financing efficiencies. As a result the acceptability of our plan increased from 77% to 93% from our draft to final plan. Acceptability increased the most for our most vulnerable customer groups.

We also considered affordability in the context of our small company cost of capital adjustment. Our detailed analysis shows that customers supported the additional cost of debt, for a variety of reasons, including the benefits from our efficiency position (particularly retail costs) and high performance on areas such as leakage, water quality and customer experience. We cautiously valued a range of scenarios of what the net benefit was to customers, but sought their support with and without these benefits, given there is a wide range of ways this can be calculated.

	Low	Medium	High
Cost efficiency	£3.11	£3.90	£7.28
Leakage performance	£0.11	£0.47	£2.02
Additional cost of capital (cost of debt)	(£2.59)	(£2.59)	(£2.59)
Total	£0.63	£1.78	£6.71

Table 6: Benefit offsetting financing costs, £ / household

We have explicit customer support for the small company cost, which we will reinvest through *'Bristol Water for All'* as an additional measure, and as our voluntary sharing mechanism for lower historical financing costs that Ofwat has encouraged companies to consider to build trust in water company performance. We agree with the objective as it is central to our plan for Bristol Water.

In our testing, 79% prefer us to remain their supplier, despite a £3 cost of finance (used to reflect that the level of this cost was part of the trade-offs the Board considered, and recent

borrowings have helped to offset some of the historical cost when we had much larger capital investment to carry out than our 2020-25 plans require). This customer support is 38%, even if there were no offsetting benefits in our service or cost levels. Only 12% of people oppose the additional financing cost, and only 6% prefer another supplier in any case.

It is our service and customers' trust in us as a local business that mostly drives acceptance of this higher cost, rather than customers being price or value for money driven. This suggests that the benefits test is not crucial to customers support. We also obtained 70% support for the additional cost of borrowing with a sharing mechanism, which falls to 53% without it. There are also a group of customers where sharing may cloud the support for the additional borrowing cost ('don't knows' increase). But overall, the evidence from our research and engagement suggests that re-investment mechanisms help to increase trust in the incentives-based regulatory framework that we operate our business within, including for financing costs.

Most customers would want a bill reduction greater than £20 in order to agree to a change of supplier. Even ignoring the 25% who wouldn't want a new supplier whatever the bill reduction was, this cautiously equates to a £20 value of the loss of Bristol Water as supplier, which is significantly higher than the £3 small company cost of finance (used in this research)

or the value of potential outcome rewards or underperformance payments.

We also gained further insight on affordability and satisfaction through this research, with only 5% of customers thinking service would improve with another supplier and only 12% being price sensitive. The local connection in particular drives our strategy for community and customer excellence, and this far outweighs those customers who would prefer a lower bill by saving the company the specific additional financing costs we propose.

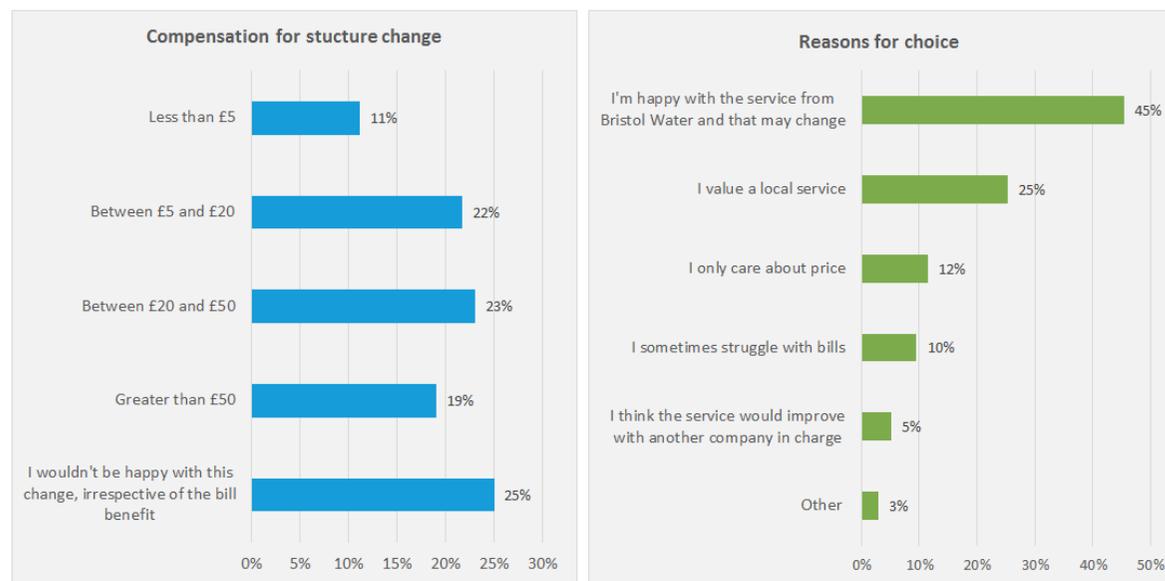


Figure 138: Customer research results for value of Bristol Water as a local company

Summary of key financial metrics

A summary of some of the key financial metrics within our plan are shown in the table opposite and are described in this chapter.

Cost of Capital

We propose an appointee cost of capital in our plan of 5.74% nominal, which is a wholesale cost of capital for both water resources and water network plus of 5.64% after deducting 0.1% for residential retail margins of 1.0%. This includes our company-specific adjustment to the real cost of debt of 0.45% (0.27% on the WACC), related to the additional cost of debt we efficiently incur as a small water only company. Although the evidence suggested a higher notional and efficient cost of debt of a small water only company than this assumption, we have limited our case to our actual additional costs. We present a compelling range of evidence of the additional cost, the customer benefits and customer support for this additional cost of finance, for the period of time over which this historical debt continues (2033). This is affordable as we do not foresee major investments which are likely to increase bills and change customer support over this time period. Our small company cost of debt adjustment is worth c£2.50 p.a. of average bills.

Metric	PR14	PR19
	2015-2020 average	2020-2025 average
ODI RORE range (central)	-2.0% to +0.6%	-2.3% to +1.1%
Full range (including CMEX and DMEX)	-4.4% to +0.8%	-5.1% to +3.2%
Full RORE range	0.2% to 7.6%	-0.8% to 8.7%
Central RORE	5.6%	4.7%
Appointee WACC (real RPI)	3.78%	2.66%
Appointee WACC (real CPIH)	4.59%	3.67%
Credit rating - Notional financial structure	Moody's Baa1	Moody's Baa2
Notional gearing	65.6%	59.5%
Adjusted interest cover Notional (Moody's)	1.54x	1.25x
FFO/Net debt Notional (S&P)	11.3%	11.8%

Figure 140: Financial metrics

Debt and gearing

Our debt/RCV gearing is projected to fall from 60% to 59% on the notional basis, and stay stable at c67% on an actual financing structure basis, after an initial increase of c2% because of the historical CIS adjustment and PR14 reconciliation adjustments.

Our debt levels are currently in the range 60-65%, consistent with notional company leverage as well as comfortably within our debt covenants. This was not always the case – it has been achieved through the Board's implementation of a conservative dividend policy following PR14, including shareholders supporting that all dividends paid out of Bristol Water thus far in the regulatory period being retained within the Bristol Water Group, in order to reduce debt to its current levels and thereby increase financial resilience.

Our debt (which is rated Baa1 by Moody's and we also monitor BBB rating levels with Standard

& Poors) comprises a combination of bank and bond debt raised over time under the umbrella of a security arrangement containing monitoring and controls which help to increase financial resilience. While Moody's has recently put many companies in the sector on negative credit watch, in part because of their vulnerability to the lower cost of capital and the

potential for gearing restrictions and sharing in the regulatory framework, this has not applied to Bristol Water as yet, although this position may be reviewed following submission of business plans.

However, Moody's expect stronger financial ratios (c1.35x rather than 1.2x) on their version of adjusted cash interest cover, in part because of the uncertainty associated with PR19. Our plan, as a package of measures, is financially resilient, but must be viewed as a package.

The financial viability relies on a level of company specific cost of debt, which we have capped at our actual cost of debt, although the evidence of the efficient level for a small company like Bristol Water at 0.96% is higher than the 0.55% additional embedded debt cost we propose.

Although we consider that there is evidence of a similar small company specific cost of equity adjustment, we have not included this in our business plan. The value we observe for this

impact has declined in recent years. Having considered the evidence we have not proposed that this is included in price controls for 2020-25. This is based on the context and set of proposals for this plan as a whole, which we present as a package of measures that are in the long-term benefit of both customers and the wider communities, including our investors, whose support for the transformation of Bristol Water since PR14 is clear.

		With small company premium	Without small company premium
Notional gearing	%	60.00%	60.00%
Total Market Return (TMR)	%	8.60%	8.60%
Risk free rate (RFR)	%	2.10%	2.10%
Equity Risk Premium (ERP)	%	6.50%	6.50%
Debt beta	dec	0.10	0.10
Raw equity beta for listed company comparator	%	77.38%	77.38%
Actual gearing of listed company comparator	%	60.00%	60.00%
Asset beta	dec	0.37	0.37
Re-levered equity beta	dec	0.77	0.77
Overall cost of equity (used in WACC)	%	7.13%	7.13%
Cost of embedded debt	%	5.20%	4.64%
Cost of new debt	%	3.55%	3.39%
Ratio of embedded to new debt	%	70.00%	70.00%
Issuance and liquidity costs	%	0.10%	0.10%
Overall cost of debt (used in WACC)	%	4.81%	4.36%
WACC ~ vanilla (pre-tax cost of debt and post-tax cost of equity)	%	5.74%	5.47%
Tax (marginal rate of corporation tax)	%	17.00%	17.00%
WACC ~ fully post-tax	%	5.25%	5.03%
Retail margin deduction	%	0.10%	0.10%
Wholesale WACC	%	5.64%	5.37%

Table 7: Financial viability summary

In line with our transformation journey, we do not expect to make significant financing outperformance during 2020-25, as we have

underperformance revenue adjustments from 2015-20 that shareholders will need to absorb. The small company cost of capital adjustment includes 0.55% on the cost of embedded debt and 0.15% on the cost of new debt. The benefits that we set out are reflected in specific deliverables linked to the reasons that customers trust a small, local company like Bristol Water. We have published a report from Ernst and Young¹⁶ that sets out why these benefits exist, and could not be replicated by larger utilities. For us the factors identified by Ernst and Young are reflected in our transition, and our view that local companies operating in a regulatory framework that is open to competitive market development will see customers benefit from:

- Agility – speed of decision making in a changing social and operating environment – boosting resilience and adopting the best innovations from others.

- Customer experience – local brands are better connected to customers and more trusted.
- Local connection – close to the community and delivering better service at a lower cost. Partnering allows innovation with universities and agility sees it turning into tangible results quicker.
- Partnering – retail efficiency, delivered in partnership with Wessex Water through Pelican, brings wider benefits than companies working in isolation.

Other than this adjustment to the cost of debt, we have assumed a cost of capital in line with the assumptions Ofwat set out in the PR19 final methodology document.

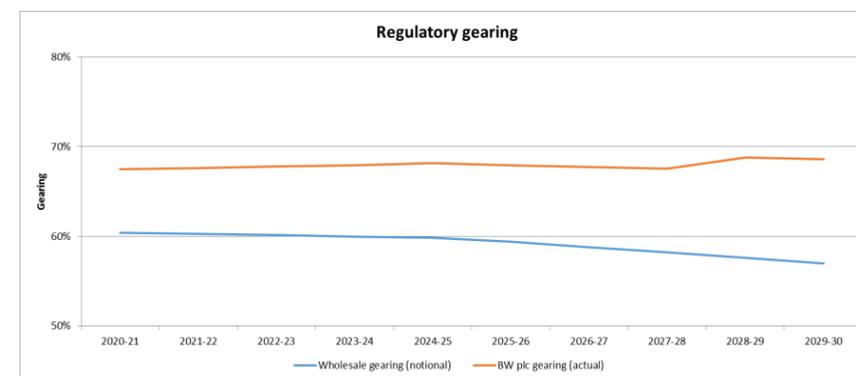


Figure 141: Regulatory gearing

¹⁶ <https://www.bristolwater.co.uk/regulatory-policy-and-consultations/>

Dividend yield

We propose an initial dividend yield of 3.2% and a real growth rate of 1.3%, which is aligned to a 4.5% blended notional cost of equity (50% RPI, 50% CPIH). The ability to pay this level of dividend will be dependent on financial performance as well as, critically, performance against our commitments.

Financial profiles

We also consider the affordability implications of our plan on customers, and how we have sought to address these through our proposed bill profiles. This is in the context of customer support for our outcome incentives, as well as approach to revenue recovery including our PAYG rate.

PAYG rates

The Pay As You Go (PAYG) rates utilised in our plan are closely aligned to what we believe to be the natural PAYG rate. We define this as the level that recovers operating expenditure and infrastructure capital maintenance, and believe this is appropriate as:

1. This equates to the level of expenditure that was historically recovered through customer bills. Aligning to this long-term principal provides a fair balance between current and future customers.
2. Customers do not support debt increasing for day-to-day maintenance activities. The infrastructure capital maintenance expenditure included in our plan reflects a sustainable level of expenditure for the long-term, and is broadly aligned to our expected AMP6 expenditure and forecast AMP8 expenditure.

For more information on our customer research into financing structures and mechanisms, see Section C6 of our supporting evidence.

We make minor adjustments to our PAYG rate to reflect bill profiling and financing considerations as we finalised our plan. As we present in the bill waterfall chart later in this section, these PAYG rates represent a significant increase from the 55% at PR14, which reflected a capital investment approach that was inefficient and is not reflected in Bristol Water's future investment plans. It also resulted in significant growth in RCV over the period, materially in excess of that at other WOCs.

	Unit	Annual Water Resources						Annual Water Network					
		2020-21	2021-22	2022-23	2023-24	2024-25	2020-25	2020-21	2021-22	2022-23	2023-24	2024-25	2020-25
Total operating expenditure	£m	11.9	12.0	12.0	12.1	12.2	60.2	42.7	42.7	43.0	43.3	43.8	215.4
Infrastructure maintenance expenditure	£m	0.7	0.7	0.7	0.7	0.7	3.3	12.0	12.2	12.2	12.1	11.7	60.2
Non-infrastructure maintenance	£m	1.7	1.4	4.8	1.4	1.4	10.6	12.5	12.9	9.5	13.5	14.4	62.8
Enhancement investment	£m	1.4	2.1	2.1	2.1	2.1	10.4	10.9	22.3	22.7	22.1	21.6	111.6
Total gross capital expenditure	£m	3.8	3.5	6.9	3.5	3.4	21.1	35.4	35.1	32.3	35.5	36.0	174.4
Grants and contributions	£m	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.7	2.8	2.8	2.9	13.9
Total net capital expenditure	£m	3.8	3.5	6.9	3.5	3.4	21.1	32.6	32.4	29.5	32.7	33.2	160.5
Totex	£m	15.7	15.5	18.9	15.6	15.7	81.3	75.3	75.1	72.5	76.0	77.0	375.9
Natural PAYG Rate	%	80.2%	81.5%	67.2%	82.0%	82.3%	78.2%	72.6%	73.0%	76.2%	72.9%	72.1%	73.3%
Adjustment to PAYG Rate	%	-0.1%	-0.1%	-0.2%	-0.3%	-0.3%	-0.2%	-0.5%	-0.5%	-1.0%	-1.0%	-1.1%	-0.8%
Total PAYG rate	%	80.1%	81.4%	66.9%	81.8%	82.0%	78.0%	72.2%	72.5%	75.1%	71.9%	71.0%	72.5%
TOTAL PAYG	£m	12.55	12.60	12.65	12.73	12.83	63.36	54.36	54.45	54.43	54.64	54.63	272.51

Figure 142: Financial profiles and PAYG rates

RCV and RCV run-off

The opening RCV includes the adjustments set out in our PR14 reconciliation submission from 13 July 2018. The key contributors to a lower opening RCV include the £8.0m CIS inflation correction, £2.1m land sales adjustment, £0.8m mains bursts RCV ODI penalty and £5.8m totex outperformance pass back to customers.

Our final proposed allocation of the opening RCV to water resources is 22.07%, compared to 22.2% in our January 2018 proposals. This takes the same approach as in January, updated for 2017-18 actual expenditure and 2018-2020 forecasts. We provide the evidence for this adjustment in Section C6. There are no adverse customer bill impacts from this allocation. We will separate our wholesale charges into water resource and water network plus components from 2020.

The midnight adjustments to the RCV are a reduction of c2.5%, which increases actual opening gearing from c64% to c66%. This means that without the midnight adjustments, gearing would have been broadly in line with the 60% notional gearing.

We calculated the RCV run off rates based on current depreciation as a proportion of the March 2020 RCV for each control. Our post 2020 RCV additions rates are based on the depreciation charges arising from the proposed capital expenditure excluding infrastructure capital maintenance. The rates overall are

slightly lower than the 6% applied at PR14, and we have maintained a reducing balance approach which is appropriate given the broadly stable RCV (overall reducing by 0.2% p.a. 2020-2025 in CPIH real terms).

To protect customers from the transition to CPIH, we have adjusted natural RCV run-off rates. This has been achieved by establishing what the 2020-25 bill level would have been if all of the brought forward RCV was indexed by RPI and the associated return was based on a real WACC discounted by RPI. When implementing the proposed 50:50 split of March 2020 RCV between RPI and CPIH linked balances, we scale back the RCV run-off rates to match the bill levels previously calculated to protect customers from an immediate bill increase caused by the change in methodology.

RCV Run Off Rates
Natural RCV rate
RPI CPIH transition adjustment
Reducing balance RCV run off rate

Water Resources			Water Network Plus			
pre 2020 RPI	pre 2020 CPIH	post 2020 CPIH	pre 2020 RPI	pre 2020 CPIH	post 2020 CPIH	Blended CPIH
2.19%	2.19%	6.60%	5.91%	5.91%	5.45%	5.82%
-0.19%	-0.19%	-0.56%	-0.50%			-0.49%
2.00%	2.00%	6.04%	5.40%			5.32%

Figure 143: RCV run off rates

Changes in the bill (from 2019-20 actuals)

There are a number of contributions to falling bills, including new customers, a reduced cost of capital (which is in part reflected in the RCV run off rate which includes adjustments to reflect the transition to CPIH), adjustments from PR14 (from outperforming on totex and underperforming on ODIs) and reduced tax rates. Expenditure (reflected in reductions in retail cost to serve, totex and RCV) is reducing the bill, but this is offset by an increase in the split of expenditure from enhancement to operations and maintenance, reflected in the "PAYG" rate. Most of the changes in the bill are technical. Wholesale totex is decreasing by £18m in 2017-18 prices between AMP6 and AMP7 (which includes new expenditure of £30m offset by efficiencies of c£48m). The mix of the programme changes towards maintenance, which sees the "Pay As You Go" rate increase from 55% to 73%. Retail costs reduce, with cost increases offset by efficiencies.

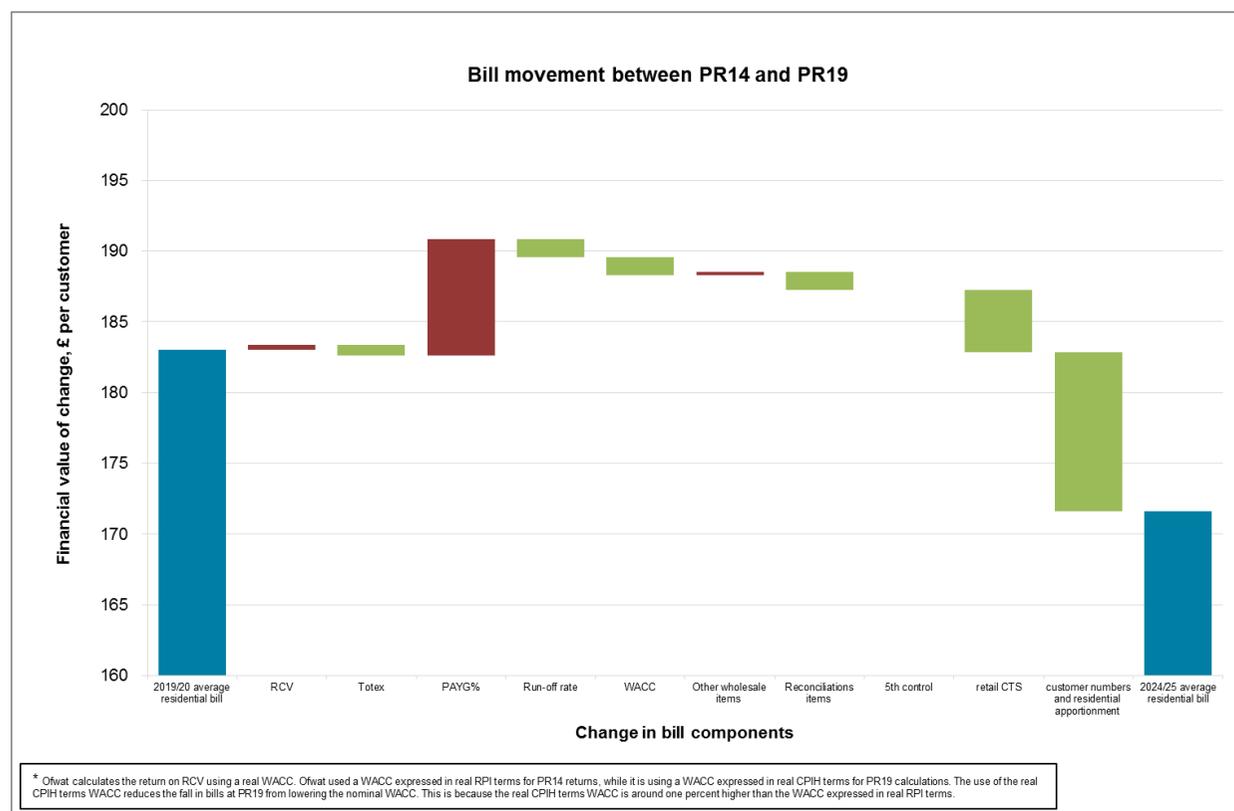


Figure 144: Reasons for bill movement between PR14 and PR19

Appointee profit

Appointee profit is broadly stable over 2020-2025, reflecting that revenues move in line with operating cost – this reflects a slightly declining bill before CPIH inflation and that most of our cost efficiencies have been assumed to be achieved from the outset at 2020, reflecting the benefits to customers of our transformation programme. We assume a tax rate of 17% in line with Government projections, with capital allowances and a c5% higher gearing than notional resulting in a lower effective tax rate at c12%. The individual price controls show a similar pattern, reflecting a plan that is integrated as a whole and without major new enhancement investments that dominate particular controls. This reflects our high quality and efficient retail services, and a water resource plan that requires water efficiency, metering and leakage reductions that are part of network plus.

Dividends are rising in real terms as efficiency is shared between customers and shareholders. This approach encourages equity retention to support financial resilience if cost risks emerge later in the period.

		Annual Appointee				
		Notional Structure @ Nominal Values				
Income statement - nominal		2020-21	2021-22	2022-23	2023-24	2024-25
Revenue						
Water resources	€m	19.5	20.1	20.9	21.8	22.4
Water network plus	€m	94.9	97.1	99.1	101.5	103.6
Water wholesale	€m	114.3	117.2	120.1	123.2	126.1
Retail	€m	10.6	11.0	11.3	11.5	11.7
Appointee	€m	124.9	128.2	131.3	134.8	137.8
Operating profit						
Water resources	€m	4.8	5.0	5.2	5.5	5.6
Water network plus	€m	31.0	31.5	31.4	31.6	31.4
Water wholesale	€m	35.7	36.4	36.6	37.0	37.0
Retail	€m	0.9	1.0	1.0	1.0	1.0
Appointee	€m	36.7	37.4	37.6	38.1	38.0
Profit Before Tax						
Water resources	€m	1.4	1.5	1.7	1.9	1.9
Water network plus	€m	20.0	20.3	19.9	19.8	19.2
Water wholesale	€m	21.3	21.8	21.6	21.7	21.2
Retail	€m	0.9	1.0	1.1	1.2	1.3
Appointee	€m	22.3	22.8	22.7	22.9	22.4
Tax						
Water resources	€m	0.0	0.0	0.0	0.0	0.0
Water network plus	€m	-1.8	-2.0	-2.2	-2.3	-2.4
Water wholesale	€m	-1.8	-2.0	-2.2	-2.3	-2.4
Retail	€m	-0.2	-0.2	-0.2	-0.2	-0.2
Appointee	€m	-1.9	-2.2	-2.3	-2.5	-2.6
Deferred Tax						
Water resources	€m	-0.7	-0.7	-0.7	-0.6	-0.5
Water network plus	€m	-0.6	-0.5	-0.3	-0.2	-0.1
Water wholesale	€m	-1.4	-1.2	-1.0	-0.8	-0.7
Retail	€m	0.0	0.0	0.0	0.0	0.0
Appointee	€m	-1.4	-1.2	-1.0	-0.8	-0.7
Effective tax rate	%	9.5%	10.4%	11.4%	12.3%	12.9%

Figure 145: Income statement by price control (nominal)

		Annual Appointee					
		Notional Structure @ Nominal Values					
Income statement - nominal		2020-21	2021-22	2022-23	2023-24	2024-25	
Revenue - Appointee - nominal		€m	124.9	128.2	131.3	134.8	137.8
Operating income - Appointee - nominal		€m	0.0	0.0	0.0	0.0	0.0
Opex - Appointee - nominal		€m	-67.1	-68.6	-70.5	-72.4	-74.5
Depreciation - Appointee - nominal		€m	-21.2	-22.2	-23.3	-24.3	-25.2
Operating profit - Appointee - nominal		€m	36.7	37.4	37.6	38.1	38.0
Other Income (incl. 3rd party income) - Appointee - nominal		€m	2.0	2.0	1.9	1.8	1.6
Interest (income) /expense - Appointee - nominal		€m	-13.3	-13.3	-13.4	-13.4	-13.6
Indexation of index-linked loans - Appointee - nominal		€m	-3.2	-3.3	-3.4	-3.6	-3.7
Profit before tax - Appointee - nominal		€m	22.3	22.8	22.7	22.9	22.4
Current tax charge - Appointee - nominal		€m	-1.9	-2.2	-2.3	-2.5	-2.6
Movement in deferred tax provision - Appointee - nominal		€m	-1.4	-1.2	-1.0	-0.8	-0.7
Profit after tax - Appointee - nominal		€m	19.0	19.4	19.4	19.5	19.2
Dividend - Appointee - nominal		€m	-6.8	-7.0	-7.2	-7.5	-7.7
Net profit - Appointee - nominal		€m	12.2	12.4	12.1	12.1	11.5
RCV balance - Appointee - nominal		€m	336.4	343.8	351.3	359.1	367.2
Average of RCV - Appointee - nominal		€m	560.2	572.1	584.9	597.8	611.8
Net debt - Appointee - nominal POS		€m	337.3	342.8	348.3	353.8	359.9
Gearing - Appointee		%	60.2%	59.9%	59.6%	59.2%	58.8%
RORE		%	4.6%	4.6%	4.6%	4.7%	4.7%
Adjusted cash interest cover ratio (Ofwat) - Appointee		Ratio	2.2	2.3	2.3	2.3	2.3
Funds from operations / net debt (Ofwat) - Appointee		%	12.7%	12.9%	13.0%	13.2%	13.1%
Effective tax rate		%	9.5%	10.4%	11.4%	12.3%	12.9%

Figure 146: Income statement Appointee (nominal)

Financing, ratios and financial viability

Our actual financing requirements are modest for this plan, which provides little opportunity for financing outperformance, but also little financing risk assuming our actual efficient cost of debt is reflected, as we propose. New debt and refinancing requirements amount to c£17m, 5% of opening net debt compared to the 30% notional assumption. Our recent financing costs have been in line with IBOXX, which supports a 0.15% small company premium and this represents our expectation for 2020-30. Around 25% of our opening debt is floating rate, with 53% index linked and the remainder fixed. This proportion stays broadly unchanged.

Our assessment of the business plan is consistent with and builds on the 10 year rolling financial viability statement that was included in our 2017-18 Annual Accounts.

Our financial ratios are robust and are based on the Ofwat ratios in the financial model. However, Moody's AICR is challenging to maintain when considering our actual financing structure and taking into account AMP6 revenue reconciliation adjustments.

The recent negative sentiment for the regulatory framework from Moody's means that their ratio to maintain the Baa1 credit rating (that Bristol Water currently maintains) has increased from

1.4x to 1.5x. We maintain a 1.4x AICR on a notional basis before accrued penalties, but are now expecting Baa2 and an AICR of 1.3x to take account of the AMP6 performance legacy. Without the company specific cost of debt adjustment we only meet an AICR of c1.1x on Moody's based on our actual ratios and therefore could not have sufficient confidence on financial viability.

Our other key financial challenge is to transition from our AMP6 PAYG rate of 55% to the c73% rate for AMP7 which reflects an operating and maintenance based capital programme, rather

than one that assumed enhancement investment such as for water resources.

Customer views, and our company operational and maintenance strategy has changed significantly since PR14, and this transition has been maintained by carefully managing our financial ratios, as well as gearing by maintaining equity within the business, with no dividends paid to ultimate shareholders during 2015-20.

A	Financial ratios ~ Notional capital structure	2020-21	2021-22	2022-23	2023-24	2024-25
1	Gearing	60.21%	59.92%	59.55%	59.18%	58.83%
2	Interest cover	4.23	4.33	4.39	4.46	4.49
3	Adjusted cash interest cover	2.22	2.28	2.30	2.33	2.32
4	Adjusted cash interest cover (alternative calculation)	1.24	1.27	1.30	1.33	1.35
5	FFO/Net Debt	12.7%	12.9%	13.0%	13.2%	13.1%
6	FFO/Net Debt (alternative calculation)	11.8%	12.0%	12.0%	12.2%	12.1%
7	Dividend cover	2.80	2.77	2.68	2.61	2.49
8	RCF/Net Debt	10.69%	10.89%	10.94%	11.05%	10.99%
9	RCF/Capex	90.61%	95.33%	94.41%	95.41%	93.62%
10	Return on capital employed	6.57%	6.51%	6.35%	6.25%	6.06%
11	RORE	4.57%	4.61%	4.64%	4.68%	4.72%
12	Target Credit Rating	Moody's Baa2				
13	Moody's AICR	1.19	1.22	1.26	1.28	1.30
14	S&P FFO/Debt	11.6%	11.8%	11.8%	12.0%	11.9%

A	Financial ratios ~ Actual capital structure	2020-21	2021-22	2022-23	2023-24	2024-25
1	Gearing	67.09%	67.23%	67.35%	67.48%	67.65%
2	Interest cover	3.99	4.00	3.98	3.97	3.94
3	Adjusted cash interest cover	2.08	2.09	2.06	2.06	2.01
4	Adjusted cash interest cover (alternative calculation)	1.14	1.15	1.15	1.16	1.16
5	FFO/Net Debt	11.1%	11.1%	11.1%	11.0%	10.9%
6	FFO/Net Debt (alternative calculation)	9.6%	9.6%	9.5%	9.5%	9.3%
7	Dividend cover	2.54	2.47	2.31	2.21	2.04
8	RCF/Net Debt	9.49%	9.52%	9.43%	9.39%	9.22%
9	RCF/Capex	89.58%	93.57%	91.99%	92.49%	90.27%
10	Return on capital employed	6.48%	6.42%	6.26%	6.16%	5.97%
11	RORE	4.66%	4.68%	4.70%	4.72%	4.74%
12	Target Credit Rating	Moody's Baa2				
13	Moody's AICR	1.19	1.19	1.20	1.20	1.20
14	S&P FFO/Debt	9.4%	9.5%	9.4%	9.3%	9.2%

Figure 147: Financial ratios – notional and actual capital structures

The change in the PAYG rate increases bills by c£27, but considered in isolation does not take into account that this is an efficient whole life cost change without the enhancement expenditure that would otherwise increase bills. We propose including in the PAYG all infrastructure maintenance expenditure, even if it is allowed for as depreciation in our statutory accounts. The difference amounts to c£3m per annum. While this does not benefit Moody's AICR, it is necessary to maintain the FFO/Debt calculation (S&P basis of calculation) above 6%, and with the small company cost of debt maintains this ratio above 9%, which provides sufficient financial headroom.

We demonstrate that using the Ofwat standard scenarios our plan is financially viable to a combination of 10% totex underperformance, 1.5% RORE ODI penalty and a 1% of turnover financial penalty. This would require however both dividend retention and c£17m p.a. equity injection, which would be inconsistent with efficient financing, given the low new financing requirements of our plan. As set out above, the bill profile for the next 10 years, and as far as can be predicted after that point, is largely stable, excluding CPIH inflation and the timing of regulatory incentives.

Our own financial viability scenarios are similar in nature, but we are more specific about the risks. We have had to take specific measures to ensure the financial viability of the business plan. Our actual financial ratios show a

significant hit from the existing revenue penalties and adjustments carried forward from AMP6. We do not want this to constrain our future ambition, but it is in customers' long-term interests to mitigate some of this impact. The notional ratios before these 2015-20 adjustments look far better than the actual financial ratios shown above, and this is

reflected in the possible adjustment to our credit rating from Baa1 to Baa2, although this still within the measures proposed and other risk mitigations provides sufficient financial resilience for 2020-25. At the same time, customers benefit from lower bills and improved services, with appropriate incentives to ensure the business continues to deliver on its obligations.

Financial ratio scenarios		Notional		Actual		Corporate	
Impact on lowest ratio 2020-2025	Outcome	Moody's AICR	S&P FFO/Net Debt	Moody's AICR	S&P FFO/Net Debt	Moody's AICR	S&P FFO/Net Debt
Base plan	OK	1.19x	11.6%	1.19x	9.2%	1.25x	9.0%
Scenario 1: 10% totex increase	Managed with returns	1.12x	8.9%	1.18x	7.3%	1.20x	7.2%
Scenario 2b: Low inflation	OK	1.18x	10.8%	1.13x	8.2%	1.17x	8.8%
Scenario 3: Bad Debt	OK	1.19x	11.6%	1.19x	9.2%	1.24x	9.0%
Scenario 4a: 3% ODI penalty in one year	Fails viability	0.72x	9.6%	0.68x	7.5%	0.88x	7.8%
Scenario 4b: £2.5m cap on ODI adjustments	Managed with returns	1.05x	11.0%	0.99x	8.5%	1.11x	8.6%
Scenario 5: New debt financing	OK	1.19x	11.5%	1.20x	9.2%	1.24x	9.0%
Scenario 6: Fine of 3% turnover	Managed with returns	1.19x	10.6%	1.19x	8.3%	1.25x	8.4%
Combined scenario 10% totex, 1.5% ODI, 1% turnover fine)	Mitigated with returns	0.83x	7.4%	0.92x	6.2%	1.01x	6.4%
Combined scenario 8% totex risk from canal cost, 2% other, 1.5% ODI, 1% turnover fine	Mitigated with returns	0.82x	6.4%	0.92x	4.9%	1.09x	5.6%
Combined scenario With ODI cap and canal cost mitigation	Mitigated with returns	0.97x	8.9%	0.98x	7.1%	1.10x	7.3%

Figure 148: Financial ratio scenarios

We have a key cost risk in the Canal and River Trust payments for the use of 45% of our Distribution Input, where they are seeking an increase from £1.8m p.a. to £10m p.a. We have not included this uncertain cost in our plan, as we believe the costs should be lower than they currently are. Instead, we propose a 75% customer to company sharing rate from a notified item mechanism for this cost risk.

Without this notified item, we could not consider the plan to be financially viable as we could not guarantee investment grade rating with other potential risks, above the c£1.5m p.a. additional cost risk that this level of notified item protection for financial viability would allow. This is a particular risks that applies to the Water Resource control, and as we show below, the RORE risk range is narrower for this control than the Water Network Plus control, reflecting that there are

no, cheaper, alternative sources of water based on our research (and particularly having regard to the materiality of this source) which represents c60% of our deployable water resources. While we are keen to explore water trading and new sources to protect customers, this risk mitigation is necessary due to the low probability that alternatives would not increase customer bills by more. This is a public policy issue and therefore our water resource risk and appointee financeability justify this measure.

In addition, we propose to cap annual bill application of ODIs and C-MeX, symmetrically for outperformance rewards and underperformance penalties at £2.5m (17-18 prices), 1.2% of RORE. Any remainder would roll forward to future years on an NPV neutral basis. This allows the business time to respond to unexpected and extreme events that affect performance, which could in combination with totex risks put pressure in financial viability. From an affordability perspective, customer support for the small company premium, stretching in-period ODIs and this cap have been obtained and are presented in our plan.

Sharing and reinvestment mechanisms

We have developed “*Bristol Water for All*” – our proposal as part of our plan which ensures customers are protected from a) equity being reduced by increases in gearing that are not related to agreed, efficient investment where

this reduces the cost of debt below price review allowances; and protected through b) local scrutiny of delivery of our key customer excellence and local community and environment outcomes, with an element of the value of customer support for the small company premium reinvested where we fall below our minimum expectations for these two key aspects of our business.

Higher gearing

As part of our plan we respond to Ofwat’s challenge to companies to include a sharing mechanism should gearing increase above 70%. This was considered carefully by the Board. Given that Bristol Water has actively reduced its gearing to close to the notional level Ofwat assumed at PR14, from above 70% in 2015, the plan trade-offs and financial viability as a whole do not allow for gearing at levels above 70%. Therefore we can protect customers by adopting a mechanism to reduce customer bills with a 50% share for the difference between the actual nominal cost of debt and nominal (long-term) cost of equity for gearing above 70%, for the excess above 65%.

We propose to exclude our £12.5m preference shares from this calculation, which is consistent with the adjustment to gearing included in our Annual Report (and of the approach taken by the CMA in 2015). This reflects that these specific historical financing arrangements can be considered equity rather than debt in some circumstances, particularly from the perspective of financial viability (especially given the ability to defer coupons and their loose covenant). An illustration of this mechanism is shown below.

1. SHARING THROUGH BILLS FOR HIGH GEARING			
1a.	Actual nominal cost of debt	7.10%	PR19 proposal
1b	Actual cost of debt	4.98%	Example
1a-1b	Cost of equity difference to actual cost of debt - total	2.12%	Outperformance
1d.	Gearing threshold	70%	
1e.	Notional gearing plus deadband	65%	
1f.	If: Actual gearing (regulatory net debt excluding preference shares)	71%	Example
1g. If 1f>70%, 1f - 1e	Then sharing of	6.0%	
1h	If year average RCV is:	550	£m example
1i = (1a-1b)*1g * 1h	Gearing (debt and equity) sharing rate	0.700	£m
1j	Sharing rate	50.0%	
1i*1j	Value of reduction in customer bill following year	0.350	£m

Figure 149: Illustrative calculation for reinvestment of company specific adjustment to the cost of debt

Reinvestment linked to the company specific cost of debt

We carried out extensive research into customer views on sharing and reinvestment mechanisms. In our research, customers preferred a mixed approach. While some preferred reinvestment in services, for others a bill reduction for lower borrowing costs was the preferred option.

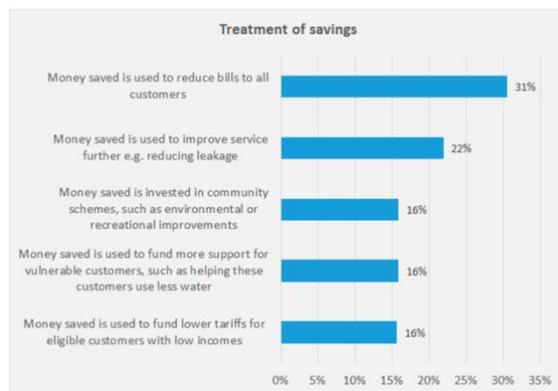


Figure 152: Customers' ranking of sharing mechanism

Bristol Water has relatively low gearing and has not paid out excessive dividends, has not used complex financing structures and pays a fair amount of tax. We do not expect to have to use our gearing benefit sharing or reinvestment proposals in practice, but they are there so that we can demonstrate that customers can continue to trust us – we may be privately financed but this is to their benefit, and does not change our focus as a privately financed, socially responsible company, delivering essential public, and environmental services.

2. REINVESTMENT OF COMPANY SPECIFIC ADJUSTMENT TO THE COST OF DEBT			
2a.	Nominal Cost of debt for Bristol Water at PR19 (using actual inflation - assume 3%)	4.81%	
2b.	Nominal Cost of debt without company specific adjustment for Bristol Water at PR19 (using actual inflation - assume 3%)	4.36%	
2c.	Notional gearing assumed	60.00%	
2d.	Actual RCV	530	£m Example
2e.	UKCSI - one of top 3 water companies	25%	25% if target not met
2f.	Community satisfaction above 75%	0	25% if target not met
2g. = 2e + 2f	Total reinvestment rate rate	25%	
2h. = (2a - 2b) * 2c * 2d	Value of small company premium, £m	1.43	£m
2g. * 2h.	Value available for reinvestment	0.36	£m

Figure 151: Illustrative calculation for reinvestment of company specific adjustment to the cost of debt

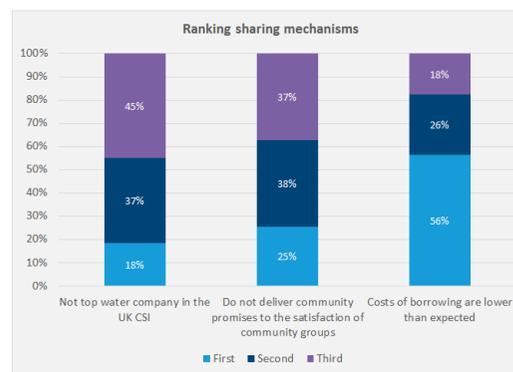


Figure 153: Customers' ranking of sharing mechanism

To meet customer views, we have therefore proposed a reinvestment mechanism to reflect the performance benefits that we think underpin customer support for our proposals for a company specific cost of debt adjustment. We believe, as do our customers, that the benefits of being served by a small water company continue to outweigh the additional financing costs.

However, we will go further than relying on our customers' support.

We propose two triggers linked to our business plan ambition, that represent voluntary reinvestment of 50% of the small company cost of debt adjustment, linked to two fundamental aspects of our performance.

1. One of the top 3 water companies in a UKCSI index (either in the national public survey or the UKCSI Bristol Water business benchmarking, whichever has a larger sample size). Failure to hit this plan promise would see re-investment of 25% of the value of the company specific cost of debt adjustment.
2. The Community stakeholder satisfaction with initiatives survey hits 75% (compared to the ODI reference level proposed of ODI trigger level of 85%). This lower level is to avoid double counting with ODI penalties. Failure to meet this plan promise would also see reinvestment of 25% of the value of the company specific cost of debt adjustment.

The reinvestment areas will be agreed with the Bristol Water Challenge Panel as part of our commitment to transparency. They could include agreeing further community initiatives, development of social tariffs or offsetting specific cost risks. The decision will be informed by surveys with our customer panel and discussions at a customer forum. An example of the calculation is shown below.

Summary of overall RORE balance

The overall summary of risk and return in the Ofwat methodology is based on a variation in the Rate of Return on Regulated Equity (RORE), effectively the allowed total return to shareholders that varies with performance. Effectively, this shows the range of performance a notionally efficiency company should experience 80% of the time. This is different from the financial viability assessment, which looks at more extreme adverse circumstances, but the principles are similar. Our plan RORE at PR19 is forecast to be -0.8% to +8.7%. This aligns with the Ofwat PR19 methodology, which suggests RORE of c4.5% real cost of equity (50% RPI, 50% CPIH) +4% / -5%, taking into account +/- 2-3% for ODIs and c+/- 2% for Totex. Given our stable water resource position, we assess any revenue risks from new entrants identifying cheaper sources of water to be outside the 10% to 90% central RORE range.

The outcomes in our plan includes the potential for outperformance payments that could in theory deliver significant rewards, e.g. for

shifting leakage down to the minimum technically achievable level, which is currently 29MI/d. There are also underperformance payments that would happen if we failed to deliver fundamental aspects of our business which we have a strong track record for, such as the drinking water Compliance Risk Index. We do not include any enhanced ODI rates in our plan. We do include tiers for some standard incentive rates for industry leading performance, but this is justified by our customer WTP at these levels of performance.

We summarise our calculation of RORE in the table and graphs overleaf. This shows that despite a c1.1% lower cost of equity than PR14, our central estimate for ODIs is more balanced between rewards and penalties, and totex risk appears in balance. 0.1% RORE equates to c£0.2m of outcome incentives or £0.4m of totex expenditure risk or opportunity (as a 50% customer sharing rate is assumed, except for the 75% for the Canal and River Trust risk). Financing risk reflects the notional company, rather than Bristol Water specific borrowings.

The RORE range for wholesale resources reflects the relatively small scale of ODIs (raw water quality, WINEP, AIM and 50% of biodiversity index) appropriate to this control. Most of the remainder of the financial incentives, which are largely asset health penalties, common measures such as leakage, Per Capita Consumption (PCC) and supply interruptions and resilience fall within the wholesale network plus

control, together with D-MeX. The residential retail control includes C-MeX, voids and an element of PCC as incentives. Cost risks are also lower in water resources, because of the CRT risk mitigation required for overall viability, most of which would fall outside of 80% probability in any case (we believe this probability to be at the risk mitigation threshold level). Retail costs have a balance of risks and opportunities, substantially on bad debt.

Given the challenge in the plan, the absolute level of potential aggregate incentives and penalties is only part of the picture. The level, structure and ambition of ODIs and PCs (which for example include a number of top quartile targets) means that our analysis suggests an expectation (or bias) towards net penalty payments in aggregate across 2020-25.

The overall level of capital expenditure is lower than previous periods – with the completion of major resilience investment such as the Southern Resilience Scheme and a Water Resource Management Plan that can be delivered through demand management and leakage reduction, with a moderate quality enhancement programme. The plan shows higher operating costs in CPIH real terms, reflecting totex and outcomes approach to investment, with the focus on leakage and water efficiency, as well as customer speed of response, driving the business forward. The level of performance improvement proposed means that the plan is efficient, with service levels

pushing the boundaries of industry performance forward.

Our customer research on outcome incentives confirmed that annual bill volatility is not seen as a positive outcome of incentives, which they otherwise support. Equally it is bad for financial viability and a low and stable efficient cost of finance. The alternative is temporary equity injections to retain investment grade status (albeit such measures are not given much weight by Ratings Agencies given their discretionary nature). The total downside risk we present is larger than equity returns. This supports the ODI and Notified Item proposals we make that ensure that short term risks can be managed within a long-term incentive framework that retains an efficient financing structure. This reflects that our gearing is close to the notional level assumed following recent equity retention.

Our plan shows a better balance of appointee RORE than at PR14, which reflected an investment plan focussed on heavy enhancement investment but did not consider whether there were better options than sunk investment that could be more efficient when balanced by outcome incentive rewards. The RORE graphs for the appointee and two wholesale controls demonstrate a better balance of risk and incentives appropriate to each control.

We would opt-in to any early certainty available to us out of the Initial Assessment of Plans as part of our risk and return balance.

RORE SUMMARY	Appointee	Wholesale water resources	Wholesale network plus
Financing Outperformance	+0.1%	+0.1%	+0.1%
ODI outperformance	+1.1%	+0.2%	+1.2%
Totex outperformance	+2.3%	+0.7%	+2.4%
D-MEX outperformance	+0.0%		+0.1%
C-MEX outperformance	+0.5%		
Central RORE	4.7%	4.2%	4.3%
Financing underperformance	-0.2%	-0.2%	-0.2%
ODI underperformance	-2.3%	-0.6%	-2.7%
Totex underperformance	-2.4%	-0.5%	-2.4%
D-MEX underperformance	-0.1%		-0.1%
C-MEX underperformance	-0.5%		
Upside total	+4.0%	+1.0%	+3.8%
Downside total	-5.5%	-1.3%	-5.4%
Total P90	8.7%	5.2%	8.1%
Central RORE	4.7%	4.2%	4.3%
Total P10	-0.8%	2.9%	-1.1%

Figure 154: RORE summary

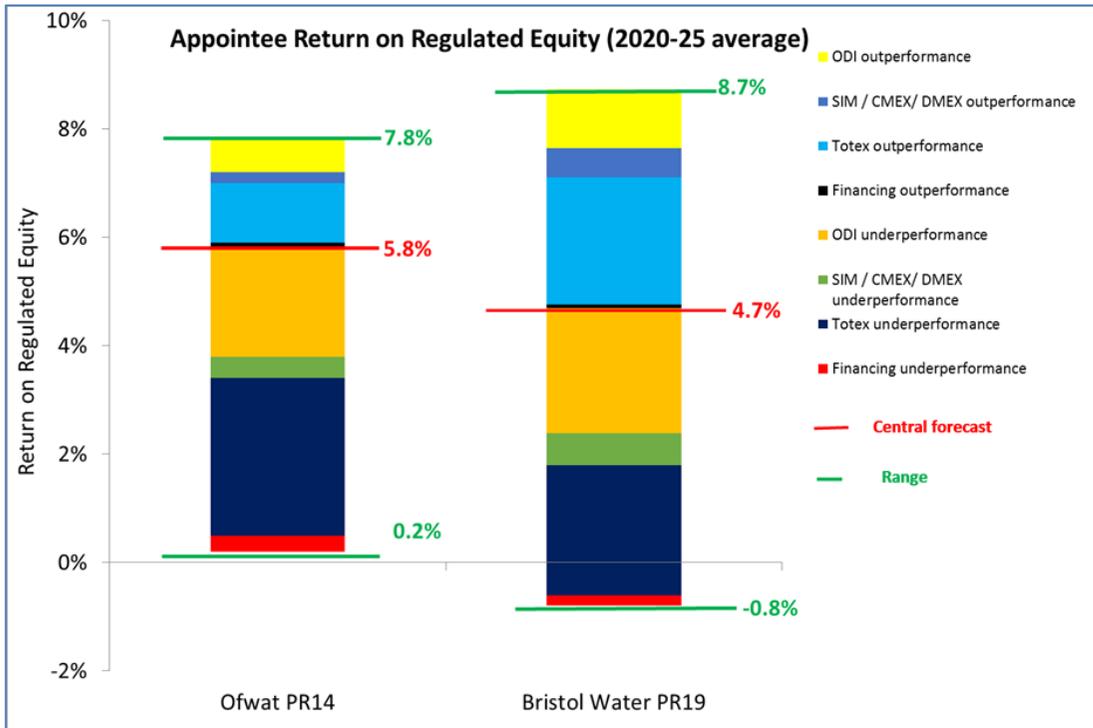


Figure 155: Appointee RORE range

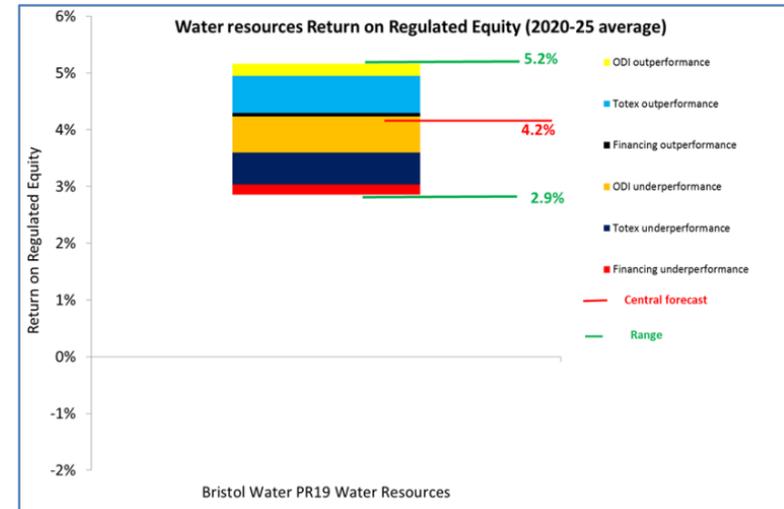


Figure 157: Water Resources RORE range

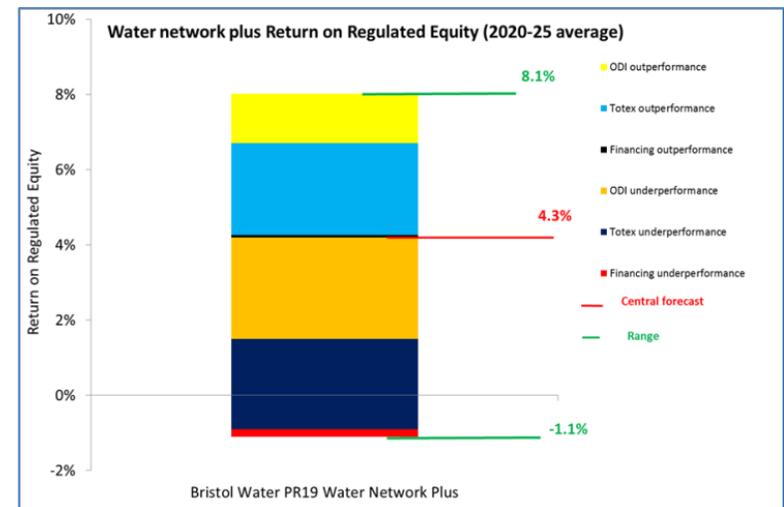


Figure 156: Water Network Plus RORE range

13. Securing trust, confidence and assurance

Our Board has ensured that this plan puts customers at its heart, reflecting the culture and values of Bristol Water and its staff. The plan is owned by the full Board, and its development and assurance demonstrates trust and confidence.

Introduction

The people whose lives will be affected by our plan should be able to see that the approach we have taken to developing it is robust and that we are able to deliver the commitments we make in the plan over the next five years and beyond.

The past performance of the business and the outcome of PR14 were followed by a change of ownership. The new shareholders understood that changes were needed and supported a transformation of the company's strategy, aspects of the business model, leadership team, and the way the company managed its operations. These changes are to provide our customers with water services as effectively, efficiently and resiliently as they expect now and in the future. In this way we can continue to justify their trust and confidence. We have been building this trust as we transform, recognised in being the most trusted utility in the UKCSI survey.

Our approach to making these changes has required a better understanding of our customers' and stakeholders' reasonable expectations of their water company, now and in future from regular and far-reaching engagement, including with over 37,000 customers during the planning process. There is a clear link between customers' views, priorities and valuations and the elements of this plan.

Our response to meeting these expectations is based on strengthening the Board, improving our data and information, and increasing the effectiveness of scrutiny and challenge from senior, experienced people inside and outside the business. Our regulators have also played, and continue to play, an important role in supporting these changes.

Our programme of changes will continue and will have an increasing effect on our delivery to customers during AMP 7. So far, we have achieved a substantial reset of our sustainable cost base, which historically was out of line with sector efficient costs. This has given us the scope to deliver performance improvements and plan for more - for example, for a significant further reduction in leakage.

In this way this plan can offer improved scope to strike an appropriate balance between future outcomes for both customers and shareholders. Striking this balance has in turn led to increased stakeholder trust and confidence in the company and the services we provide,

evidenced by the very high level of customer acceptance of our final plan.

As well as demonstrating a plan which reflects our customers' expectations, the other key foundation for increased trust and confidence is our improved ability to deliver this ambitious plan. This reflects the initiatives we have taken and the improvements we have made, including those contained in our Transformation Programme outlined earlier in this document.

In the remainder of this chapter, we focus on why this approach to transforming the business means that customer can have trust and confidence in the plan and in the people who will deliver it, most of whom are themselves customers of Bristol Water.

It has the following parts:

- A strong Board
- Robust risk management
- Improved executive leadership and resources

A strong Board

The capability and effectiveness of our Board is the starting point to ensuring that customers, regulators, government, stakeholders and investors can have confidence in our PR19 plan and delivery of the commitments it contains.

A strong Board depends on:

- Appropriate membership
- Ownership of a customer-centric business strategy
- Effective leadership in adopting the right company policies and promoting the right culture

In developing this plan, the Board has been informed and challenged by the results of a series of independent reviews and by the work of the Bristol Water Challenge Panel.

Appropriate membership

The acquisition of a majority shareholding by iCON Infrastructure in April 2016 resulted in Board changes and the adoption of a Code of Governance which, among other things, meant that investor representatives were not in the majority.

The independent chair of the Board ensured that by 2017, as well as the two executive directors and six NEDs (including three shareholder representatives), there were three independent non-executive directors. This was to ensure that, among other things, the Board could have a robust discussion about how important trade-offs, such as the balance between customer bills and shareholder returns, would be struck when making decisions about the business plan.

In April 2017, after a competitive process, the Board appointed a CEO with extensive experience of international and UK infrastructure companies, both as a director and as a consultant undertaking strategic and operational performance improvement reviews. He has water industry experience including involvement in price reviews. The CEO lives in Bristol and is a Bristol Water customer.

By November 2018, the Board will be further strengthened by the appointment of three new INEDs (one of whom joined in June 2018) and a CFO, with experience of a range of multinational organisations and latterly as CFO of Bristol Energy, Bristol’s community-based energy retailer. The additional capabilities and insights from the new appointments are complemented by the continuity from the senior NEDs who remain on the Board, who can ensure that the lessons derived from experience are properly reflected in the future strategy.

A customer-centric strategy

In 2017, the CEO initiated a series of sessions involving the Board, the chair of the Bristol Water Challenge Panel and former regulators and advisors with expertise in regulated and non-regulated customer-facing business, including water. The output informed the long-term strategic vision set out in **Bristol Water...Clearly** (published in February 2018), which invited comment from our customers, stakeholders, regulators and others with an

interest in our strategic direction, culture and management priorities.

The document is the basis for our long-term customer-centric strategy. It provides the context and framework for our specific promises and plans for the next price control period and beyond. The transparency with which the company’s philosophy and performance commitments have been articulated have been welcomed by the Bristol Water Challenge Panel (BWCP) and customers. The same transparency will inform how we monitor and report on the delivery of the PR19 plan.



Figure 158: The BWCP together with members of our Board and some of our employees after a meeting held at Blagdon Pumping Station

The right company policies and culture

The right company policies are reflected throughout our plan. They are reflected in a corporate governance approach that focuses on our role as a local provider of an essential public service, that is compared to much larger companies in the water and wider utility sector within which it operates. The policies are reflected in this plan, including our approach to dividends and executive remuneration. Most of all the policies are embedded in the customer culture that sits throughout the organisation – a focus on the wellbeing and health and safety of staff that reflects that they are part of the communities they serve and are customers as well. Through enabling change and innovation through the culture and values that our staff exhibit doing the important roles they all play, the Board through its strategy ensures that customers and the community are at the heart of our corporate governance. It is essential to the agility and strategic advantage we set out in **Bristol Water...Clearly** – this customer culture is the foundation of being trusted as we develop our people and the business.

Robust risk management

Since 2016, the Board's focus on risk identification and mitigation has sharpened. The Board meets formally eight times a year, interspersed with "deep dives" and working sessions with the Executive team to ensure that

key components of the wider business strategies and the business plans are aligned, internally consistent, and transparent, in terms of the trade-offs involved.

In 2016, following external review of the lessons to be learned from PR14 and recommendations for best practice for the conduct of PR19, the Board established the PR19 sub-committee. The role of this sub-committee was to develop the framework and oversee the process for developing the Business Plan for AMP7, and to make recommendations to the Board as the detailed work and options evolved. The Committee is chaired by the Senior Independent Director, an independent non-executive director with extensive experience of infrastructure regulation. This PR19 Sub Committee complements the Audit, Risk and Assurance Committee, the chair of which sits on the PR19 Sub Committee and the Remuneration Committee.

This gives the full Board a strong, coherent approach to challenging the thinking and recommendations of the Executive team, which includes ensuring that we have the culture, resources, policies and practices in place to deliver the commitments in the Plan.

The Board has identified key risks to the transformation required to enable the delivery of the PR19 plan. They include

- The availability and retention of leadership and senior management talent

- Improving asset and knowledge management
- Improving supply chain performance and managing dependency on key contracts
- Data and information integrity given the company's "Prescribed" status
- Our contract for water resources from the Gloucester and Sharpness Canal

The Board engages regularly on these issues. Highlights include:

- Progress against the asset management improvement framework, which is assessed every 6 months with a session with the Board to review progress
- Direct board engagement on three separate occasions on the Transformation Programme as it was developed during 2018. This focussed on how the cost and service targets would be delivered for 2020-25 by improving the network supply chain model before 2020.
- The Board approved a data and information integrity action plan in February 2018 which included new commitments on leakage reporting reflected in this business plan, a reshaped approach to data reporting and transparency in the 2018 Annual Performance Report which was reflected in the Assurance Plan and the establishment of a project to take these short term data improvements further

before 2020, including reshaping the relationship with procurement partners.

Throughout the creation of the Plan, the Board has received regular reports from the company's individual PR19 assurance partners, so it could interrogate and understand the scope of work, data sources and integrity, and the implications of their findings and recommendations. This has been complemented by the work of PwC, our strategic Assurance Partner, which provides a further line of independent external input in addition to the work of the individual assurance partners.

Additionally, we have had several important independent reviews on specific issues, some initiated by the Company since the change of ownership and others preceding that. The results have brought external knowledge and perspective, and have driven significant change and improvement in business management and performance (see spotlight box overleaf).

The Bristol Water Challenge Panel has had and will continue to have an important part to play in ensuring that customers can have trust and confidence in the PR19 Plan and its delivery.

At the last Price Review the Bristol Water Local Engagement Forum (as it was then known) was chaired by the former SW regional Chair of CCWater. In 2016 the Board invited Peaches Golding, OBE, the Lord Lieutenant of the City and County of Bristol to chair the BWCP.

Peaches and her panel bring detailed knowledge of our own local communities and customers' constructive challenges, to ensure that the way in which we have used customer research and engagement to shape the Plan and make trade-offs is transparent, complete and appropriate.

Bristol Water Board members have been directly involved in customer and Challenge Panel events, while the Chair of the BWCP has attended Board meetings and working sessions, where her input has provided the Board with an ongoing customer and community perspective to inform its decisions.

The BWCP's independent report for Ofwat will be published on the Bristol Water website so that customers and others have access to it, and the Panel will continue to be involved during the delivery of the Plan in AMP7, continuing to challenge our performance as well as a specific new role as part of the "*Bristol Water for All*" sharing mechanism.

Improved executive leadership and resource

The successful delivery of the PR19 Plan will require appropriate leadership and management throughout. When the CEO joined, he moved quickly to strengthen the Executive team, to drive improved business performance and continue the demanding work that will be required to deliver this plan.

The regional labour market in Bristol and the South West is competitive. As a result, some Executive posts were filled on an interim basis, in order not to compromise on capability and continuity, and to make progress on managing material business risks. We have developed an innovative approach to recruitment and talent management to meet the challenges of the labour market challenges, to make sure that the resources required to deliver the plan are in place.

The Executive team now has a good mixture of those who have been with the company for some time and new members who bring additional experience including from other regulated infrastructure providers, as well as extensive experience of strategy, transformation and plan delivery in the water sector from a company perspective, as well as experience of economic regulation.

Spotlight on: Independent reviews of Bristol Water

Ofwat's review of Bristol Water's PR14 business plan and the CMA review

Ofwat's review of our 2014 business plan led to a price determination that was substantially lower than that assumed in our PR14 plan. The Board in place at the time asked Ofwat to refer the determination to the CMA. The outcome was mixed, with a price determination closer to Ofwat's view than that in the original plan, although the CMA net result meant some additional funding for a reduced enhancement plan.

Social media feedback indicated that some customers and consumers were concerned that the company had resisted the Ofwat determination, suggesting that the process had affected the trust and confidence between customers and the company, as well as that between Ofwat and the company.

This challenging referral process demonstrated that the approach of the then investors was not conducive to the right outcomes for customers and the environment. The company learned much from the detailed work of the CMA, and the process was instrumental in the change of ownership in 2016.

Due diligence review

The acquisition of Bristol Water by iCON Infrastructure in 2016 followed a due diligence review to provide the confidence that the company's investment requirements could be met, and that iCON Infrastructure would oversee changes needed to the organisation, to enable it to meet more demanding expectations of a private company

providing essential services in a monopoly environment. The acquisition was led by Paul Malan, iCON Infrastructure's Senior Partner and now a member of the Bristol Water Board.

iCON Infrastructure is an employee owned, independent asset management group focused on infrastructure investment in Europe and North America. It has approximately €2.5 billion of funds under management invested in infrastructure businesses including Firmus energy, Oslofjord Varme, Verbrugge International, Bristol Water, Capstone Power Corporation, Service Terminal Rotterdam, Spinelli Terminals and Mountaineer Gas.

Paul himself has over 20 years' experience in infrastructure investment having worked for Macquarie Bank where he established and led their European utilities business and Deutsche Bank where he established and led an infrastructure investment business within its Global Markets division. This included South East Water, where Paul was also on the Board.

Since the acquisition, the Bristol Water Board has commissioned independent reviews to support the significant business transformation programme initiated by the new owners. Each of these reviews made recommendations which were adopted. They complemented and informed evolving and ongoing improvements to the company's governance and performance management arrangements. In combination, all these initiatives have served to improve the quality of our current plan.

Review of PR14 business plan

In 2016 PwC was commissioned to undertake an independent review of the approach to PR14 and

recommend improvements based on best practice. Recommendations included:

- Development of a customer led strategy to frame the development of the PR19 plan.
- Appointment of a strategic assurance partner to assess and report on whether second tier assurance initiatives taken together were comprehensive, properly scoped and discharged to enable the Board to have the confidence it needed to sign off the business plan.
- Creating a separation of roles, including between the programme team responsible for producing the plan, reporting to the CEO, and those responsible for strategic proposals, and for challenging the plan.

Building on its knowledge of the improvements required, PwC subsequently was appointed to be Bristol Water's strategic Assurance Partner for development of the PR19 plan. The contract stipulates that staff involved in providing assurance advice are not involved in providing other services to the company.

The Board has approved changes in the scope, coverage and alignment of the work of the assurance partners, and a more robust process for producing and signing off the Board Assurance Statement

Reviews of Asset Management

In 2017 PA Consulting assessed our asset management relative to a mature, world-class, model. KPMG then worked with us to design an organisation model to deliver the recommendations. The Executive and Board receive independent periodic assessments of progress and benefits from implementing the model.

Board Effectiveness Review

In 2017, the Board commissioned an independent review of its effectiveness, the conclusions of which it subsequently published in our 2017-18 Annual Report. The review confirmed that the Board was compliant with its Governance Code, which is based on the Combined Code and Ofwat’s own guidelines. It made recommendations relating to the skills and experience mix of Board members, to better support the delivery of the customer-centric strategy during the next AMP period. These recommendations have informed the appointment of new INEDs.

Summary

The approach to the development of the PR19 business plan has been designed to ensure that it has customers at its heart and that customers can have confidence in its integrity and deliverability, both for 2020-25 and beyond.

In summary, the drivers of this confidence are:

- An experienced shareholder that has demonstrated commitment to a customer-led strategy and who wants to build the company’s performance and reputation.
- The use of independent reviews to challenge and validate the company’s strategy and business plan on several fronts, learning lessons from the past and embedding best practice into the plans for the future.
- A Board, focused on risk management, which is being further strengthened to oversee the challenges of continued business transformation and delivery of the PR19 Plan.
- An experienced CEO and executive team combining knowledge of Bristol Water with perspective and experience from other organisations including infrastructure providers.
- A strong Bristol Water Challenge Panel, assuring the company’s approach to customer research and engagement and its use in the development of the PR19 Plan.

- Experienced assurance partners working with the Board and Executive team to complement internal challenge and review, to ensure that the Plan is consistent with the company’s strategy, well-evidenced and deliverable.

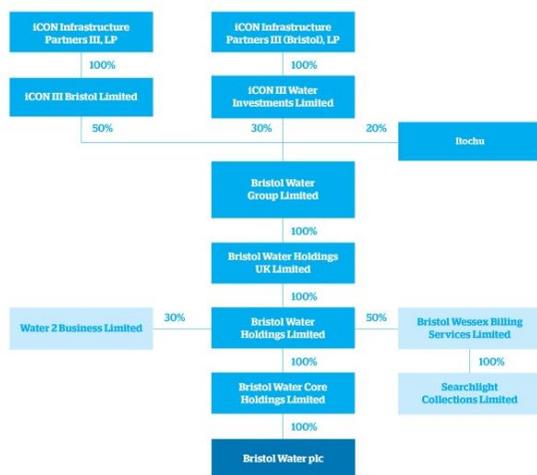


Figure 159: Bristol Water Group ownership structure