

Elements of the plan

# Securing Cost Efficiency

an  
efficient  
Water  
Future



South West  
Water



Bournemouth  
Water

## Elements of the plan



Engaging Customers



Addressing Affordability & Vulnerability



Delivering Outcomes for Customers



Securing Long-Term Resilience



Targeted Controls, Markets & Innovation



**Securing Cost Efficiency**



Aligning Risk & Return



Accounting for Past Delivery



Securing Trust, Confidence & Assurance

## Contents

Introduction	3
Business plan navigation	4
Executive summary	6
Performance over 2015-20	10
Forecast totex levels 2020-25	13
Cost efficiency: Delivering efficiency in our investment plan	33
Cost adjustment claim submission	37
Direct procurement for customers	39
Data assurance	40
Summary	41
Initial assessment of plan questions	41
High quality, ambitious and innovative plan	45
Appendices	49
Customer research and engagement	50
WaterFuture Customer Panel engagement and assurance	51
Board assurance	53
Professional credentials of third parties	54

## Introduction

This document summarises the approach South West Water has taken to cost and investment in developing the 2020-25 business plan.

A key aspect in the development of our plan is to ensure that the outcomes are delivered efficiently and that they represent value for money for our customers.

Our costs are driven by numerous internal and external factors, including the day-to-day operational and maintenance requirements of our networks, the longer-term needs for capital investment, population growth in our region, input price inflation, the appropriate payment of local and national business taxes, and the impact of legislation.

In developing our plans we have scrutinised our costs at several levels of aggregation, our total spend across the business, across the value chain, and on a cost specific basis. All elements of our plans and inputs (such as manpower, raw materials, third party contractors and power) have been subjected to a detailed challenge.

Our costs are influenced by macro-economic impacts such as inflation, the impacts of legislation, including aspects which apply specifically to our particular sector, and by how much we can reduce costs through scrutiny and challenge – using innovative approaches in our pursuit of sustainable efficiencies.

We have considered five areas in pulling together our plan:

- Historical performance and cost control
- Cost forecasts for 2020-25
- Meeting efficient baselines
- Cost adjustments specific for South West Water
- Uncertain cost items.

In 2020-25, separate wholesale revenue controls are being set for water resources, water network plus, wastewater network plus and bioresources, as well as a residential (household) retail control. This document also sets out the cost forecasts for these individual revenue controls.

Our overarching approach to the cost base is to:

- Continue to seek to deliver ongoing total expenditure savings in 2020-25
- Focus on key initiatives such as:
  - Energy efficiency and renewable generation
  - Optimising the structure and processes in our business to deliver an efficient service
  - Promote innovative solutions for totex delivery
- Exclude factors that are uncertain and should be included in the 'WaterShare' mechanism, ensuring customers do not pay for these risk areas.

We have tested and challenged our proposals seeking independent expert advice wherever possible to support our plan.

## Business plan navigation

This document is part of the overall business plan providing key information about our proposals and how it answers the initial assessment of business plan tests.

### Securing Cost Efficiency

- CE 1** How well evidenced, efficient and challenging are the company's forecasts of wholesale water expenditure, including water resources costs?
- CE 2** How well evidenced, efficient and challenging are the company's forecasts of wholesale wastewater expenditure, including bioresources costs?
- CE 3** How well evidenced, efficient and challenging are the company's forecasts of retail expenditure, including bad debt costs?
- CE 4** To what extent are cost adjustment claims used only where prudent and appropriate, and where they are used, are cost adjustments well evidenced, efficient and challenging?





Answers to these questions are summarised in the **Summary** chapter of this document, with signposts to further detail and evidence within this document, and where appropriate, other documents forming part of the overall business plan submission – see **Document map**.

**Business plan navigation** continued











**Document map**

The primary documents within the business plan submission are illustrated below. Other supplementary information, reports and documents are also referenced within these documents and can be accessed using a link in the document, where appropriate.







**Business plan to 2025**

	<b>Business Plan</b>		<b>WaterFuture Customer Panel Report</b>		<b>Customer Summary</b>		<b>Investor Summary</b>
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**Elements of the plan**

	<b>Engaging Customers</b>		<b>Addressing Affordability &amp; Vulnerability</b>		<b>Delivering Outcomes for Customers</b>		<b>Securing Long-Term Resilience</b>		<b>Targeted Controls, Markets &amp; Innovation</b>
	<b>Securing Cost Efficiency (this document)</b>		<b>Aligning Risk &amp; Return</b>		<b>Accounting for Past Delivery</b>		<b>Securing Trust, Confidence &amp; Assurance</b>		<b>Board Assurance Statement</b>

**Revenue controls**

	<b>Appointee Summary + Tables and commentary</b>		<b>Water Resources Wholesale Revenue Control + Tables and commentary</b>		<b>Network Plus Water Wholesale Revenue Control + Tables and commentary</b>
	<b>Network Plus Wastewater Wholesale Revenue Control + Tables and commentary</b>		<b>Bioresources Wholesale Revenue Control + Tables and commentary</b>		<b>Residential Retail Revenue Control + Tables and commentary</b>

**Business plan to 2050**

	<b>2050 Vision</b>		<b>2050 Environment Plan</b>		<b>Draft Water Resources Management Plan</b>		<b>Drainage and Wastewater Management Plan</b>
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## Executive summary

In PR14, South West Water was assessed by Ofwat to be one of the leading water companies in the industry. We presented evidence, and Ofwat’s own analysis confirmed that our performance with regards to total expenditure (and our plan for 2015-20) was efficient.

We are acutely aware of the impact the cost base has on customer bills and the financeability of the business. We have ensured that we have a robust, well evidenced and supported cost base for the period to 2025 which builds on the significant efficiency delivered during 2015-20.

In order to ensure that our bills and our future plans represent value for money, we constantly focus on innovation and how to improve our efficiency in every area of our business. Efficiency is not something that we consider every five years, it is embedded in the culture of South West Water. This ensures customers’ bills are kept as low as possible and external cost pressures are mitigated as far as possible.

Providing maximum benefit to our customers has been, and remains, the key priority for South West Water. We have continued to improve our efficiency since the PR14 final determinations. We have merged with Bournemouth Water and have delivered on all the benefits that we promised from that merger, including significant synergy savings forecast at £27m. As a result, we have outperformed the 2014 Final Determinations and shared that outperformance with our customers through WaterShare and the totex regulatory sharing mechanism, with efficiency on our totex allowance forecast to be c. £300m, a saving of c. 16%.

As part of our continuing pursuit of efficiency, we have carefully considered by how much we can further reduce our costs going forward, through internal scrutiny and challenge, opening up elements of our cost base to external competitive tendering where appropriate, and proactively implementing innovative approaches and new technologies where possible. We have also used external independent top-down efficiency analysis in order to provide further challenge.

This document focuses on how efficiencies are being identified, how we have challenged our own thinking and discusses major cost items that require separate explanation and treatment, because of specific circumstances or because of significant uncertainty.

It also describes our cost base, the challenges and third party external benchmarking that has been undertaken and underpins the cost forecasts in the plan.

### Performance over 2015-20

South West Water has delivered significant efficiencies both in lowering the operating cost base and in delivering our capital programme in an innovative and efficient way, which included the merger with Bournemouth Water.



For more information, see [Pennon Plc Acquisition of Bournemouth Water](#)

Over the period 2015-20 South West Water is forecast to deliver over £300m of totex outperformance, with around a third delivered through operating cost savings which significantly lowers the base position from 2020 compared to the allowances in the 2014 Final Determination.

These savings have been driven by initiatives, such as:

- Continuing advantages from our strategic alliances including a new water distribution alliance and the H50 capital delivery
- Efficiencies of £27m from the Bournemouth Water integration, including efficient delivery of key capital schemes
- Delivering continued operational improvements and efficiencies, in particular optimising chemical usage through enhanced site management and process compliance improvements
- Ensuring efficient capital investment through the use of data analytics, optimising capital and operating solutions, as well as promoting safer and efficient off-site build techniques
- Real-time pressure management and network modelling targeting efficient interventions in our water networks
- Reducing bad debt costs and restructuring our customer service and debt management activities, through sharing best practice between Bournemouth Water and South West Water.



For more information, see [Accounting for Past Delivery](#)

This outperformance will be shared with customers through lower bills as a consequence of our lower totex base position and lower opening Regulatory Capital Value (RCV), which again benefits customers through lower bills from 2020-25.

## Executive summary continued

### Cost forecasts for 2020-25

Our business plan will continue the excellent progress made during 2015-20. Following external benchmarking we are forecasting to deliver further efficiency in totex.

For household retail costs we have received an independent third party assessment of the potential real price effects which impact such a business – including those specific for South West Water's locally based customer approach.

As a result we have included a proportion of these costs equating to c.1% over the 2020-25 period. However, we are targeting a further c.23% reduction in the doubtful debt charge (from 2017/18) which will partially offset the impact of these price effects. These other cost pressures result in further efficiencies required over the period.

Our operating efficiency savings arise from specific investments, such as energy generation and efficiency as well as a strategic project focusing on delivering a more resilient service to customers. In addition to these specific efficiency projects, we are also targeting 1% general reduction in costs, including support costs, through innovation, working in partnership to implement new technologies, adopting greater automation and delivering services to customers at lower cost. We also need to deliver efficiencies to manage

cost pressures as a result of the transition from RPI to CPIH inflation.

Whilst we continue to drive for more efficiency, there are inevitably cost pressures which arise from macro-economic factors, customer growth, changes in delivery or legislative requirements. When considering the factors to reflect within our business plan base operating costs, we have considered the timing, value and likelihood of these costs arising, and where necessary, have obtained third party evidence for the costs. These costs include:

- Costs associated with new capital schemes delivering outcomes and customer growth
- Real price increases above inflation; such as power and retail costs
- Regulatory charges reflecting the new Environment Agency (EA) charges
- Isles of Scilly investment and operating requirements
- Costs to further support those customers in vulnerable circumstances and those with affordability issues.

We have identified certain costs which we believe are uncertain due to aspects, such as legislation or timing of implementation. We are identifying these to be included within the WaterShare mechanism for 2020-25. The items identified are in the table below.

Item	Explanation	Impact	Included in business plan
<b>Pension costs</b>	Changes in the pension costs post 2022 recovery payments may arise due to changes in the market.	Potential costs changes post 2022	✗
<b>Traffic management</b>	It is anticipated that local councils in our region may implement lane rental for working in the highway. No council in our area has yet implemented this but costs could be significant.	Expected during 2020-25 but scale of impact uncertain	✗
<b>Customer supply pipes</b>	Following the adoption of private sewers in 2011 and private pumping stations in 2016 legislation may arise which requires the adoption of private water supply pipes also.	Timing and scale of costs	✗
<b>New water treatment works</b>	The scale and nature of these investments would result in potential cost changes and risk sharing is proposed.	Delivery risk and potential costs	✓
<b>Rates</b>	No allowance has been included for the potential revaluation in 2021 – which may increase the rateable value of the water cumulo and wastewater treatments works.	Uncertainty surrounding 2021 revaluation	✗
<b>EA charges – wastewater</b>	There are known increases in the cost of discharge permits which are included in the plan. Additionally there is a potential change in the EA approach to charging where a performance based approach may be adopted. The timing and scale of this is uncertain.	Uncontrollable costs of regulation	✓ / ✗
<b>EA charges – water</b>	The water abstraction licensing system is subject to reform and we expect costs to increase. Given the uncertainty over the timing and scale of the impact this is included in the WaterShare mechanism.	Regulatory reform expected but timing and scale uncertain	✗
<b>Environmental investments (WINEP)</b>	The scale, nature and timing of investments in environmental obligations could result in potential cost changes and risk sharing is proposed for these projects.	Uncertainty in delivery risk and potential costs	✓
<b>Isle of Scilly</b>	The scale, nature and timing of the investments and costs for the expansion into the Isles of Scilly could result in potential cost changes and risk sharing is proposed for these areas.	Delivery risk and potential costs	✓

## Executive summary continued

### Cost adjustment claims

The nature of the South West peninsula, with its dispersed population, lengthy coastline, hilly topography and limited groundwater reserves, has shaped the way in which the company operates as well as its cost base.

In addition, when comparing our costs with other companies, even after attempting a relative assessment by allowing for different number of customers and the differing size of the network, there are reasons why the relative level of costs incurred by South West Water may be higher.

Whilst the rivers, estuaries and coastal waters of Devon and Cornwall provide the basis for much of the region's economy through tourism and commercial trade, they particularly impact the wholesale wastewater treatment costs incurred by the company:

- The location of major population centres in the region are predominantly coastal, with more designated bathing waters than any other company in England and Wales, along with significant shellfish waters and protected habitats. This disproportionate share has resulted in the company operating and maintaining more energy intensive UV treatment processes than any other water and sewerage company (WaSC)
- Only 2% of our wastewater treatment works are 'large' (and even these are significantly smaller than other companies). As a result, the large number of small rural works present economies of scale disadvantages.

Around 90% of the company's drinking water comes from surface water sources such as reservoirs and rivers with around 10% from groundwater sources such as boreholes and springs. The nature of our predominantly surface water sources means that the company has to deal with the impurities that result from both human and animal activity such as industry and agriculture, as well as those from natural processes. These can affect the quality of the water and the company has to ensure that its water treatment processes are sufficiently robust to deal with them. Similarly, the naturally acidic quality of surface water (much of it arises from moorland) as well as the extended nature of our pipe network, presents additional treatment and operational challenges. The mild regional climate also promotes the growth of unwanted algae in many of the surface water sources and this requires additional treatment measures to ensure drinking water quality is maintained.

The South West Water operating region is largely rural with dispersed, isolated communities. Higher density population centres tend to be concentrated in our coastal areas, while our water supply sites are generally located near to our natural water sources in remote or upland areas, away from the coast. In addition, the undulating nature of the topography adds complexity to our supply network as it has to contend with transferring water from treatment sites to the main centres of population, as well as the smaller dispersed rural communities.

The resultant water distribution network is an inherently complex mix of trunk and distribution mains, with relatively more service reservoirs and booster pumping stations.

As a result of the significant level of investment made in the South West Water region since privatisation, bills for South West Water customers are one of the highest in the industry. Whilst South West Water's doubtful debt charge has been reducing during recent years, through targeted collections activity and also affordability initiatives to support those customers who struggle to pay, the size of the bill results in a cost per customer which is above the industry average. However, when considered as a proportion of revenue this has reduced to 2.7% for 2017/18 (compared to c.4.3% in 2012/13) and is now below the industry average.

As such, on a unit cost basis, our costs appear relatively high, but once these factors are accounted for, South West Water's forecast botex for wholesale water and wastewater services and for household retail are below the efficient modelled forecast level.

We have considered Ofwat's approach to the totex cost base assessment (both on base and enhanced totex). We believe that the final cost assessment modelling should take account of key atypical cost factors which impact our cost base including those discussed above, however there are some key items which we would propose are removed from the cumulative totex assessment.

The factors which have been used to identify areas outside of totex are:

- Materiality levels
- Uncertainty, including cost, output or timing estimation
- Cost variations because of factors specific to the region we serve, such that it would not be reflected in a variable used industry wide in efficiency modelling
- Outside of reasonable management control.

The items identified for review are aligned with those proposed in our May 2018 submission to Ofwat except for the addition of another new water treatment works in the Bournemouth region after further discussion with the Drinking Water Inspectorate. The details of the cost adjustments are included in the 'cost adjustments' section of this document. They include:

- Isles of Scilly investment – both water and wastewater
- Two new water treatment works at Knapp Mill and Alderney.



For more information, see  
**Cost adjustment claim**



## Executive summary continued

### Cost efficient plan

Throughout the development of our plan for 2020-25 we have looked at how we can improve our own efficiency across both wholesale and retail activities. We have sought to innovate and examine best practice in our own industry and elsewhere to identify where savings can be made.



For more information, see  
**Targeted Controls, Markets & Innovation**

### Process

We believe that the costs included within our plan are at an efficient level and build on both the underlying efficiency in the 2015-20 price review and also the significant totex outperformance delivered over this regulatory period.

The efficiency targeted during 2015-20 was 2.5% per annum operating cost reductions and 5.5% embedded efficiencies within the capital programme. We have targeted a similar level of efficiency for 2020-25 to further drive the frontier in the industry.

Operating cost efficiency has been targeted across the business and includes the following planned savings:

	Per annum savings
Wholesale – operating cost efficiencies on base service costs	1.0%
Wholesale – inflation efficiencies (RPI to CPIH)	1.2%
Wholesale – benefits delivered through the RSI project	0.2%
Wholesale – energy efficiency and generation	0.2%
Retail – further bad debt reductions	0.3%
Retail – input price pressure	0.1%
<b>Total</b>	<b>3.0%</b>
<b>Operating costs capital programme efficiencies</b>	<b>5.0%</b>

Overall we believe South West Water is in a strong position for achieving an efficient frontier cost assessment.

Further detail on the outcome of this modelling is included in the 'cost efficiency' section of this document.

### Key messages

- ✓ Totex outperformance in current period reinforces relative efficiency position at forefront of industry across value chain
- ✓ Realised synergy benefits from integration with Bournemouth Water further enhances efficiency position across wholesale water and retail
- ✓ New, better industry comparator for service and cost
- ✓ Board led customer focused culture, keeping bills as low as possible
- ✓ WaterShare mechanism used for uncertain cost items e.g. new obligations not confirmed
- ✓ Operational data and forecasts demonstrate how cost baselines relate to business needs across value chain
- ✓ Detailed industry cost modelling and benchmarking used by Board to challenge own forecasts across value chain
- ✓ Bottom-up evidence support forecast costs included in business plan
- ✓ Stepped change reduction in bad debt costs following sharing of best practice with Bournemouth Water and enhanced affordability support
- ✓ Cost adjustment claims only made for atypical large investments (Isles of Scilly and new water treatment works) supported by strong evidence

## Performance over 2015-20

In PR14, South West Water was assessed by Ofwat to be one of the leading efficient water companies in the industry. Since then, we have merged with Bournemouth Water and implemented a number of efficiency programmes, which has resulted in the company outperforming the final determinations and maintaining our leading efficiency position.

South West Water has delivered significant efficiencies both in lowering the operating cost base and in delivering our capital programme in an innovative and efficient way. The key areas of delivery have been:

### Operating cost savings

**For the period 2015-20 South West Water took advantage of lower than expected wholesale power prices by hedging certain volumes through to 2020, although third party costs have increased over this period**

**Operating cost savings from the merger of Bournemouth Water combining support and back office functions**

**Efficiencies from ongoing improvement schemes – general savings above the 1% assumed in the PR14 business plan have been delivered**

**In 2014/15 the Pennon Group Pension Scheme (of which South West Water accounts for c. 80%) was restructured to change the benefits of pensioners – this resulted in savings in ongoing contributions**

**Lowering the cost of doubtful debts through targeted collections improvements and supporting customer affordability initiatives**

**Efficiencies in the delivery of maintenance schemes, with a higher proportion being through efficient planned investment schemes.**

### Capital delivery

**Working with our partners we have ensured consistent contractual terms are in place throughout the end to end supply chain, encouraging improved co-operation through all aspects of the supply chain resulting in improved performance**

**Through focusing on asset management, we have packaged projects together to be delivered as larger programs of work. This allows more efficient contractor planning, better resource balancing and enables more efficient procurement**

**By packaging capital projects into larger, longer term programmes of work we have been able to use our internal and partner project resources more efficiently, carrying expertise and lessons learned from one project to the next**

**We have targeted off site build techniques to deliver the construction schemes safely and with minimal impact on sites and the surrounding areas, also driving greater efficiency**

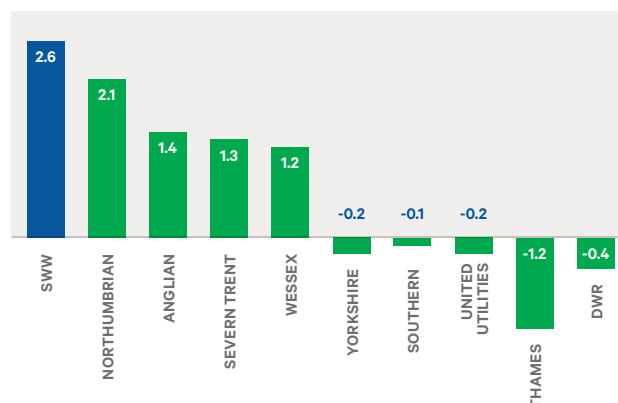
**We have used more efficient technologies including innovative ion-exchange and ceramic filtration, the first of its kind used in the UK, at Mayflower Water Treatment Works.**

## Performance over 2015-20 continued

These efficiencies over 2015-20 have delivered significant totex savings across all areas. Total wholesale totex savings are forecast to be c. £300m over 2015-20.

These values take account of the impact of menu exclusions in line with the PR14 reconciliation rulebook.

### Sector leading totex outperformance (cumulative to 2017/18) (% of RoRE)



## Wholesale totex savings

	2015/16 £m	2016/17 £m	2017/18 £m	2018/19 £m	2019/20 £m	Total £m
Water Allowance FD14*	162.6	168.8	168.3	151.7	144.6	796.0
Actual / Forecast water costs	127.7	150.9	149.4	115.9	107.3	651.2
<b>Totex savings</b>	<b>34.9</b>	<b>17.9</b>	<b>18.9</b>	<b>35.8</b>	<b>37.3</b>	<b>144.8</b>

\* Including Bournemouth Water

Wastewater Allowance FD14*	191.5	193.0	176.6	158.5	155.6	875.2
Actual / Forecast wastewater costs	146.6	163.3	148.3	131.9	124.7	714.8
<b>Totex savings</b>	<b>44.9</b>	<b>29.7</b>	<b>28.3</b>	<b>26.6</b>	<b>30.9</b>	<b>160.4</b>

## Residential retail cost base

	2015/16 £m	2016/17 £m	2017/18 £m	2018/19 £m	2019/20 £m	Total £m
Residential Retail Cost to serve (FD14)*	32.5	33.0	33.4	33.6	34.0	166.5
Actual / Forecast retail costs	33.4	30.2	29.1	29.6	29.6	151.9
<b>Retail cost savings</b>	<b>(0.9)</b>	<b>2.8</b>	<b>4.3</b>	<b>4.0</b>	<b>4.4</b>	<b>14.6</b>

\* Including Bournemouth Water

## Performance over 2015-20 continued

### Bournemouth Water integration

On 15 April 2015, Pennon Group plc acquired Bournemouth Water and following clearance from the CMA Bournemouth Water and South West Water merged, establishing a new combined licence, from 1 April 2016.



For more information, see  
**Pennon Plc Acquisition of Bournemouth Water**

We identified clear benefits which we expected from the integration as part of the CMA and committed to delivering these including:

- Commitment to return of the small company premium immediately reducing Bournemouth Water customer bills
- Integration synergies resulting in reduced customer bills in both regions, sharing in the cost savings
- The tariff guarantee between South West Water and Bournemouth Water was committed to being retained
- Providing even better customer service as a combined entity building on best practice across both regions, sharing knowledge and driving greater innovation
- Give greater service resilience, enhancing the ability of the merged entity to respond more
- Responding effectively during emergencies or peak periods for example seconding skilled labour between the two regions to ensure the continued security of water supplies
- Other synergies include scale economies, as well as the sharing of best practice which includes:
  - Sale of land and surplus operational properties
  - Reduced overhead and corporate costs of operating two separate companies
  - Reduced group charges
  - Combined retail business and wholesale operational savings
  - Business rates.

We have delivered on our commitments and are on track to deliver the c.£27m of cumulative savings identified over 2015-20. A significant proportion of these savings have been delivered through operational changes and improvements.

In addition, all but one of the 15 ODIs targeted for 2020 are on track to be delivered in the Bournemouth Water region and Bournemouth Water is at the top of the industry for the Service Incentive Mechanism for customers.

Key areas of delivery have been:

- Integration and centralisation of all support services functions
- Merged the household retail activities including call centre
- Fully combining the management of wholesale water activities, joint systems and processes and approaches to operational management, including leakage strategy and responsiveness to incidents
- Driving savings from procurement and the supply chain, including South West Water's H50 Alliance for delivering the capital programme.



For more information, see  
**Accounting for Past Delivery**

## Forecast totex levels 2020-25

Our business plan will continue the excellent progress made during 2015-20.

### 2020-25 operating costs

For household retail costs, we have received an independent third party assessment of the potential real price effects which impact such a business – including those specific for South West Water’s locally based customer approach. As a result we have included a proportion of these costs equating to c.1% over the 2020-25 period, however, we are targeting a further c.23% reduction in the doubtful debt charge (from 2017/18) which will partially offset the impact of these price effects.

2.6% operating efficiency savings are targeted in the wholesale controls for the 2020-25 period including 1% general operating cost efficiencies across the wholesale cost base, a 1.2% (average per year) for the transition from RPI to CPIH. In addition, specific efficiencies of 0.4% are targeted through specific investments such as energy generation and efficiency, as well as a strategic project focusing on delivering a more resilient service to customers.

Within the totex forecasts operating expenditure is assumed as:

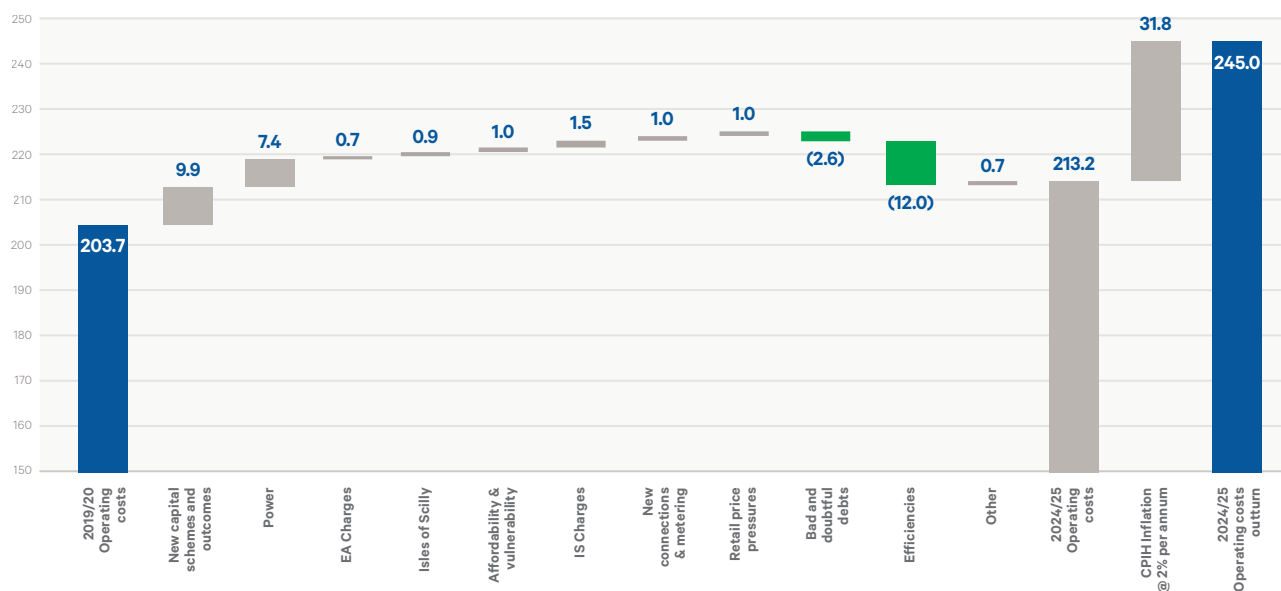
Whilst we continue to drive for more efficiency, there are inevitably cost pressures which arise from macro-economic factors, customer growth, changes in delivery or legislative requirements. When considering the factors to reflect within our business plan base operating costs, we have considered the timing, value and likelihood of these costs arising, and where necessary have obtained third party evidence for the costs. These costs include:

- Costs associated with new capital schemes delivering outcomes and customer growth
- Real price increases above inflation, such as power and retail costs
- Regulatory charges reflecting the new EA charges
- Isles of Scilly investment and operating requirements
- Costs to further support those customers in vulnerable circumstances and those with affordability issues.

Operating costs 2017/18 (CPIH deflated) <sup>(1)</sup>	2019/20 £m	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m
Water	86.6	91.5	91.9	91.6	90.9	90.7
Wastewater	88.2	96.4	96.2	95.5	94	93.2
Residential retail	28.9	30.2	29.9	29.7	29.5	29.3
<b>Total</b>	<b>203.7</b>	<b>218.1</b>	<b>218.0</b>	<b>216.8</b>	<b>214.4</b>	<b>213.2</b>

(1) Excluding pension deficit costs

The chart below reflects the annual increase in costs between 2019/20 and 2024/25. Specific increases reflect the real additional costs (in 2017/18 prices) before the impact of inflation. South West Water has assumed that inflationary increases can be managed within the underlying inflationary allowances of CPIH of 2.0% – despite some items being linked more closely with RPI.





## Forecast totex levels 2020-25 continued

2017/18 prices (CPIH deflated)	Total £m	Water Network Plus £m	Wastewater Network Plus £m	Residential Retail £m
<b>2019/20 Operating costs</b>	203.7	86.6	88.2	28.9
1. New capital schemes and outcomes	9.9	4.9	4.9	0.1
2. Power	7.4	3.4	3.9	0.1
3. EA Charges	0.7	0.0	0.7	0.0
4. Isles of Scilly	0.9	0.5	0.4	0.0
5. Affordability & vulnerability	1.0	0.5	0.0	0.5
6. IS Charges	1.5	0.6	0.6	0.3
5. New connections & metering	1.0	0.0	0.0	1.0
7. Retail price pressures <sup>(1)</sup>	1.0	0.0	0.0	1.0
8. Bad and doubtful debts	(2.6)	0.0	0.0	(2.6)
9. Efficiencies	(12.0)	(6.2)	(5.8)	0.0
Other	0.7	0.4	0.3	0.0
<b>2024/25 operating costs</b>	213.2	90.7	93.2	29.3
<b>CPIH Inflation @ 2% per annum</b>	31.8	13.5	13.9	4.4
<b>2024/25 operating costs outturn</b>	245.0	104.2	107.1	33.7

(1) Assumed retail price effects included in base costs

1. Based on analysis for specific projects and external assessments
2. Future pricing impacts informed by third party analysis from Cornwall Insight
3. Reflects the announced restructuring EA charges
4. Detailed cost assessments included within the Isles of Scilly business plan informed by external advice and analysis
5. Expanding programmes based on unit cost assessment of existing levels and external cost assessment of new initiatives
6. Based on known changes to contractual charges
7. External analysis of actual price impacts from Economic Insights
8. Bad and doubtful debt reduction calculated from historical collections performance and targeted
9. Efficiencies identified through investment plans informed from third party analysis and 1% general efficiencies based on external assessment of the frontier efficiency shift

2019/20 operating costs allowed within the 2014 Final Determination were £244.0m (in 2017/18 CPIH deflated prices). As a result of the significant savings made during 2015-20 and further efficiencies targeted real costs in 2024/25 are expected to be lower than FD14, despite the increases in certain areas.

## Forecast totex levels 2020-25 continued

### New capital schemes & operating cost outcomes

With the introduction of new and improved capital investment there is inevitably an increase in future ongoing costs. In addition, we have also considered the totex framework in delivering our outcomes and as a result some solutions have resulted in increases in operating costs. Such activities include:

- Additional wastewater chemical dosing for phosphorus removal under the Water Framework Directive
- Additional wastewater power costs to run UV disinfection at additional locations and greater process capacity driven by new regulation
- Additional chemical and power cost arising from the planned installation of Granular Activated carbon (GAC) plants or new secondary filtration at some of our Water Treatment Works associated with our quality driven investment programme. This programme is necessary to improve water quality (particularly taste, odour and appearance) as well as delivering multi-barrier solutions to pesticides and contaminants, such as cryptosporidium.

The net increase in the key revenue consequences of capital included in the plan as a result of the investments resulting from investment optimisation (capital investment for maintenance of existing assets does not attract revenue consequences of capital as this is already included in the base opex) is as follows:

2017/18 prices (CPIH deflated)	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m
<b>Water</b>					
New drinking water quality programme	0.109	0.887	1.510	1.644	1.897
Upstream thinking	0.109	0.120	0.120	0.130	0.130
Water efficiency	0.040	0.040	0.040	0.040	0.040
Water resilience	0.220	0.320	0.420	0.420	0.420
Water treatment	0.160	0.210	0.260	0.260	0.260
Water distribution	1.280	1.330	1.480	1.680	1.680
M&G IS costs	0.327	0.321	0.278	0.280	0.274
Isles of Scilly	0.100	0.100	0.100	0.100	0.100
Other	0.036	0.036	0.298	0.044	0.048
<b>Sub total</b>	<b>2.381</b>	<b>3.364</b>	<b>4.506</b>	<b>4.598</b>	<b>4.849</b>
<b>Wastewater</b>					
Legislative obligations	0.010	0.253	0.570	0.853	1.072
Sewerage assets and networks	1.845	1.995	2.245	2.395	1.820
Growth and New Towns	0.026	0.188	0.248	0.399	0.529
Wastewater treatment works including new obligations	0.790	0.840	0.890	0.940	0.940
M&G IS costs	0.486	0.477	0.413	0.417	0.408
Isles of Scilly	0.060	0.060	0.060	0.060	0.060
Other	0.054	0.077	0.137	0.082	0.099
<b>Sub total</b>	<b>3.271</b>	<b>3.890</b>	<b>4.563</b>	<b>5.146</b>	<b>4.928</b>
<b>Residential (Household) Retail</b>					
M&G IS costs	0.071	0.069	0.060	0.061	0.059
<b>Sub total</b>	<b>0.071</b>	<b>0.069</b>	<b>0.060</b>	<b>0.061</b>	<b>0.059</b>
<b>Total</b>	<b>5.723</b>	<b>7.323</b>	<b>9.129</b>	<b>9.804</b>	<b>9.836</b>

## Forecast totex levels 2020-25 continued

South West Water incurs business rates in relation to the following main areas:

2017/18 prices (CPIH deflated)	Annual cost £m
Wholesale water (Cumulo formula)	21.487
Wastewater treatment works	6.284

Offices and premises rates are £0.7m spread across water, wastewater and retail.

The most recent review of business rates was completed in 2017 and implemented for the 2017/18 financial year. The next review and revaluation of wastewater treatment works and water cumulo rates is expected in 2021 (a year earlier than previously planned) with reviews every three years thereafter.

In order to develop the costs in our plan, we received advice from our external rating advisors and also considered the impact of the 2017 valuation on our current rates bill. The two key factors which impact the rates bill are:

- The underlying universal business rate (UBR) – although increasing by CPI up to 2021 the economic position may result in a higher increase in UBR above inflation allowances
- The assumed valuation of wastewater assets or changes in the approach to the water cumulo calculation could increase the rateable value and therefore the annual rates bill.

### Water cumulo

The cost is derived from a complex formula to reach a rateable value (RV) based on notional profitability for the water network with the universal business rate (UBR) then being applied to this value.

For the 2017 revaluation, South West Water's cumulo rates increased significantly with a change in the approach for establishing the rateable value. With support from external rates advisors, we reviewed the proportion of water assets on which the cumulo would apply and the total cumulo cost remained broadly flat from the prior year, increasing only by the inflation on the UBR.

For the next revaluation, due in 2021 it is anticipated that the Valuation Office Agency (VOA) will change the approach to calculating the cumulo rates from the current proportion of tenant assets to a weighted average cost of capital (WACC) approach. Based on initial calculations this would increase the water cumulo rates value by c.20%.

In addition, whilst the UBR is expected to increase in line with CPIH over the next three years, this can be impacted by other macro-economic factors. It has previously been assumed that UBRs would increase at the 2017 valuation driven by the depressed rental market. This increase did not arise, however the UBR value remains a risk during 2020-25.

We recognise that there is significant uncertainty in the approach to the 2021 valuation and therefore we have not included either the potential 20% increase in the rateable value or the UBR increase within our PR19 cost base ensuring customers do not pay for such levels of uncertainty. Instead we have assumed that this would be considered as part of our WaterShare mechanism where any increases or decrease would be shared 20% company (reflecting potential management action to limit any increases) and 80% customer. This is consistent with our approach at PR14.

### Wastewater treatment work rates

Rateable values for wastewater treatment works are based on the cost of providing a modern equivalent for the existing works (sewers are not rated).

Similarly to the water cumulo there is an expectation that the valuation of wastewater sites (particularly with the financial challenges faced by local authorities) might also increase significantly in the next valuation, potentially up to 25%.

In line with the approach to the water cumulo we have decided to include the potential asset valuation increase and UBR risk as an uncertain item within our WaterShare mechanism on a 20%/80% company / customer sharing.

Forecast totex levels 2020-25 continued

Power

2017/18 prices (CPIH deflated)	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m
Power cost increase	4.668	6.207	6.138	6.531	7.350
<b>Total power cost*</b>	<b>34.216</b>	<b>35.345</b>	<b>35.066</b>	<b>35.408</b>	<b>36.179</b>

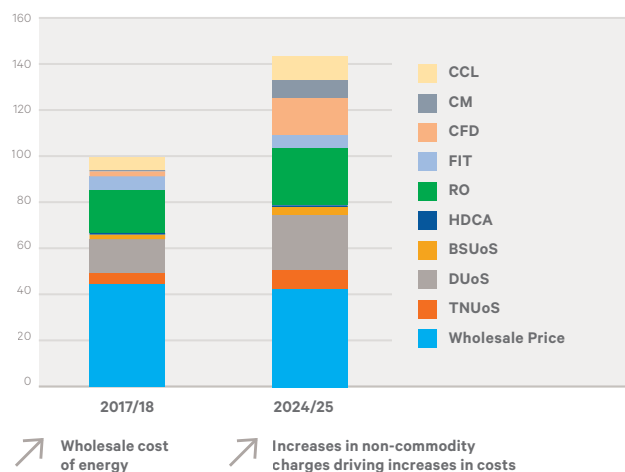
\* net of income treated as a negative expense

Electricity power costs are forecast to rise significantly over the period 2021-25 due to the impact of projected increases in predominantly the non-commodity component of power costs. Our projections are based upon our underlying usage at 2017/18.

Power costs are split approximately as follows:

- 5% Water Resources
- 40% Wholesale Water – Network plus
- 51% Wholesale Wastewater – Network plus
- 4% Bioresources.

Forecast cost of power (£/MWh)



We have engaged independent experts to project future energy price changes which we have used to support our forecast cost requirements.

Additional costs identified for power reflect the impact of future increases in projected third party charges which are forecast to undergo rapid changes over the next five years with an increase in non-commodity charges. These increases are primarily due to a shift in governmental policy and uncertainty of supply, leading to a forecast 44% rise in energy prices between 2017/18 and 2024/25.

Delivered electricity costs consist of the wholesale cost of energy plus a range of third party charges levied by electricity suppliers for the use of the transmission and distribution networks made by their customers:

- Transmission Use of System (TNUoS) – Charges paid to National Grid by those generators and suppliers who are considered to have used the electricity transmission network to transport energy. The charges vary for both generators and suppliers according to their geographic location and the demand for grid usage at that location
- Balancing Services Use of System (BSUoS) – Charges paid by electricity suppliers and transmission connected generators based on the energy taken from or supplied to the National Grid system in each half-hour settlement period. It varies for each settlement period
- Distribution Use of System (DUoS) – Charges levied by host distribution companies to electricity supply companies to cover the cost of distributing electricity to their customers.

## Forecast totex levels 2020-25 continued

TNUoS and DUoS are charged on a regional basis with South West Water exposed to some of the highest charges in the country due to the distance between our region and the source of most generation.

Additional costs, generally referred to as levies and taxes, are costs placed on suppliers by the Government as a means of funding policy objectives and subsidies which are then billed to customers. These currently include:

- High Distribution Charge Area (HDCA) – is a charge paid by all electricity users in Britain to supplement the relatively high costs of power distribution in Scotland
- Renewable Obligations (RO) – is a financial obligation on suppliers to support renewable electricity generators
- Feed in Tariffs (FIT) – is a charge on suppliers to fund and promote the uptake of small-scale renewable electricity generator projects in the UK
- Climate Change Levy (CCL) – is a tax on energy delivered to non-domestic users in the UK. The aim of CCL is to provide an incentive to increase energy efficiency and to reduce carbon emissions.

In addition, the government's Electricity Market Reform (EMR) has now introduced additional charges in order to secure, clean and affordable generation, while meeting challenging environmental targets and this is recovered through the following:

- Contract for Difference (CfD) – is a financial obligation on suppliers to support low carbon electricity generators. The degree of support they must provide is determined by CfD contracts offered to generators by Government and by the volume of electricity those generators generate
- Capacity Market – The Capacity Market forms a part of the government's Electricity Market Reform initiative. It acts as a mechanism designed to ensure sufficient reliable capacity is always available by providing payments to generators and to encourage investment in new capacity.

South West Water has commissioned independently assured reports from Cornwall Insight to assist in preparing cost projections for the period from 2017/18 to 2024/25, one on forecast wholesale energy prices and the other on third party charges.

We have used this expert advice and detailed industry experience to apply known cost component changes to the volume based data on a site by site basis wherever possible. Usage will vary depending upon a variety of factors such as weather conditions (for example, a dry summer requires more water pumping and a wet winter requires more wastewater pumping), asset condition, new capital investments and efficiencies that will be targeted.

Forecast increases in third party charges present a significant challenge to the overall cost of energy. The table below summarises the forecast for energy rates from 2017/18 to 2024/25:

2017/18 price base	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
<b>Wholesale price MWh</b>	<b>£44.88</b>	<b>£38.99</b>	<b>£39.84</b>	<b>£43.14</b>	<b>£43.18</b>	<b>£43.23</b>	<b>£43.29</b>	<b>£43.30</b>
TNUoS	£4.98	£5.57	£6.09	£6.50	£7.23	£7.37	£7.47	£7.54
DUoS	£14.69	£19.51	£20.18	£20.80	£21.57	£22.37	£23.19	£24.05
BSUoS	£2.08	£2.70	£3.48	£3.95	£5.01	£5.08	£4.54	£3.74
HDCA	£0.24	£0.25	£0.26	£0.27	£0.28	£0.29	£0.30	£0.31
RO	£18.92	£21.10	£22.09	£22.86	£23.70	£23.64	£24.08	£24.42
FIT	£5.58	£5.88	£6.15	£6.40	£6.67	£6.45	£6.44	£6.43
CfD	£2.09	£3.65	£5.37	£7.26	£8.75	£10.59	£13.39	£15.58
CM	£0.81	£2.78	£3.85	£4.53	£6.29	£5.70	£5.53	£8.16
CCL	£5.68	£5.83	£8.47	£8.73	£9.00	£9.29	£9.59	£9.90
<b>Sub-total Non-wholesale</b>	<b>£55.07</b>	<b>£67.27</b>	<b>£75.94</b>	<b>£81.30</b>	<b>£88.50</b>	<b>£90.78</b>	<b>£94.53</b>	<b>£100.13</b>
<b>Total</b>	<b>£99.95</b>	<b>£106.26</b>	<b>£115.78</b>	<b>£124.44</b>	<b>£131.68</b>	<b>£134.01</b>	<b>£137.82</b>	<b>£143.43</b>
% Increase from 2017/18		6%	16%	25%	32%	34%	38%	44%



## Forecast totex levels 2020-25 continued

The following table illustrates the energy cost profile during 2015-20:

Nominal prices	2020/21	2021/22	2022/23	2023/24	2024/25
<b>Total energy costs £k</b>	<b>36,365</b>	<b>38,304</b>	<b>38,769</b>	<b>39,922</b>	<b>41,618</b>
HHM electricity	31,651	33,351	33,741	34,778	36,296
NHHM electricity	3,186	3,371	3,431	3,528	3,672
Private wire electricity (3rd party renewables)	687	691	695	700	705
Elec metering charges	300	300	300	300	300
Natural gas	62	94	94	94	106
LPG	67	69	71	73	75
Gas oil / Red diesel	412	428	437	449	464

### Energy risks, resilience and quality assurance

South West Water is building resilience into the network through planned investment in:

- Increased data and visibility of sites, to proactively identify potential sites at risk and implement mitigation
- Energy storage, ensuring sites are resistant to supply risk, through investment in battery linked renewable technologies which will also help avoid non-commodity and commodity charges
- Increasing reliability through efficiency programmes
- Condition Based Monitoring of strategic assets, increasing reliability, preventing down-time and reducing the risk of failure.

### The impact on greenhouse gases and the carbon reduction commitment

Our planned investment in energy efficiency and renewable energy is forecast to reduce greenhouse gas emissions by an estimated 1.613ktCO<sub>2</sub>e a year by 2024/25. This is a significant reduction from the company's baseline emissions of approximately 165ktCO<sub>2</sub>e in 2017/18. About 75% of the company's carbon emissions are as a result of imported grid electricity usage.

The carbon reduction commitment (CRC) will close after the final year 2018/19 and be replaced with an adjustment in the CCL unit rates. This step increase in the CCL cost from 2019/20 onwards can be seen in the electricity unit cost per MWh table above.

### Estimating the 2019/20 baseline for modelling

Energy cost modelling has been based on our energy cost and consumption for 2017/18 (the latest actual position) allocated to functional activities of water wholesale, wastewater wholesale and retail. Forecasts are developed based on energy unit price expectations and our programme of energy interventions for the remaining part of the 2015-20 period to determine a forecast baseline for 2019/20. 2019/20 is the assumed starting point for determining the likely changes to costs and consumption as a result of our programmes of interventions we plan to deploy during the final two years of this regulatory period.

## Forecast totex levels 2020-25 continued

### EA abstraction charges and licence costs

EA charges are largely outside of management control and impact on both the water and wastewater revenue controls. £5.2m of EA charges relate to abstraction licence charges with £3.3m relating to discharge consents from wastewater sites.

Wastewater EA costs are expected to increase by £0.7m as a result of known increases in the cost of discharge permits. This has been included in our base costs for cost assessment, however no allowance has been included for the potential cost changes from 'performance based regulation' which may be introduced during 2020-25. If changes arose these would be included in the WaterShare mechanism under new legislative obligations.

The water abstraction licensing system is subject to reform as part of a Strategic Review of Charges which has indicated potential increased costs of c.25% to water companies. On balance, we believe there is a plausible risk of cost increases in the range of 15-20%. However, given the uncertainty on both timing and impact of the change we have excluded this from our business plan and instead propose that this should be dealt with through the WaterShare framework.

### Isles of Scilly

We are in the process of submitting a New Appointment Variations (NAV) application to extend our area of appointment to the Isles of Scilly. Alongside c.£36m of capital investment planned, operating costs to operate existing assets and services are required with £0.9m forecast by 2024/25.



For more information, see [Isles of Scilly business plan](#)

### Affordability and vulnerability

South West Water has a number of highly successful schemes in place to support customers with genuine affordability issues, many of which are recognised by the industry and other external organisations as being industry-leading best practise.

We have pioneered the introduction of social tariffs in the water industry and our wide range of assistance measures are delivered in partnership and through many third party organisations.

In addition to our affordability initiatives, delivery of strategy has been underpinned by continuous development and improvement of key systems and processes. We are acutely aware of the impact our actions can have with those customers in vulnerable circumstances and we have trained our staff in techniques and skills to identify, relate to and effectively support customers in situations of vulnerability. To do this, we worked with the mental health charity MIND to raise the profile of vulnerability through delivering mental health training to over 300 people.

Our guiding principle was to treat customers based on their individual circumstance with the proactive use of all our affordability initiatives, with staff encouraged to offer proactive help and advice wherever possible.

We also understand that anyone can unexpectedly find themselves in a vulnerable circumstance which may have an affordability impact.

For more information, see [Cost adjustment claim](#)

Between 2015-2020, we have continued to promote our affordability initiatives including, an additional £2.5m of investments (above our 2012/13 base) to maintain our schemes. This has included:

- Working with Plymouth Citizens Advice we established the Water Debt Gateway which has supported over 7000 customers
- Our Freshstart Fund has been available for customers who encounter a change in circumstance that leads them to debt
- The WaterCare Programme which supports customers on very low incomes, providing benefits check (realising on average c.£43 / week in additional income for eligible customers)
- Advice on water saving devices, fitting low cost devices in homes to reduce water usage and ultimately lower bills.

We have developed trusted relationships working closely with other organisations including social housing providers, food banks and job centres to reach customers who may be nervous about contacting us directly to seek help with their bill.

Whilst we have made significant investment in this area, we recognise that there remains a number of our customers who would be recognised as living in water poverty. Our customers recognise this challenge and customer research completed identifies that customers are willing to support investment for those customers who struggle to pay their bills or may find themselves in vulnerable circumstances – this may include needing additional operational service during an incident.

## Forecast totex levels 2020-25 continued

The £1.0m we have included within our 2020-25 business plan is reflective of key improvement plans which focus on expanding our existing services of:

- Dual billing
- Priority Services Register
- Working with third parties to support vulnerable customers
- Water efficiency
- Expanding our social tariffs
- Maximising income within the household.



For more information, see  
**Addressing Affordability & Vulnerability**

### Information Services (IS) costs

Historically, Information Services have been procured and managed through on site technology solutions (i.e. South West Water owned hardware and managed Data Centres). While this model remains appropriate for critical services such as telemetry and process control, many IT services such as email, telephony and office services have moved towards hosted, cloud-based solutions which are typically subscription-based and therefore carry higher operating costs but require less capital investment.

While this brings greater opportunity for new / flexible options for remote and mobile access, this will also introduce new security challenges that must be addressed. In addition increasingly we need to procure new and innovative IS security services to ensure we detect threats – these are almost exclusively provided on an external subscription model.

Whilst this does not impact on the totex of delivering solutions, and they continue to be completed in the most efficient way possible it does result in an increase in operating costs over 2020-25 – whilst capital costs reduce.

Overall, £1.5m of additional operating costs are included from 2020, but the capital costs for 2020-25 have fallen to £33.9m compared to £42.8m (2017/18 prices) included in 2015-20 business plan.

### Retail inflation

During the 2015-20 period, South West Water has targeted significant customer service improvements whilst reducing the retail costs to serve our customers. Over this period the retail business has faced increasing price pressures including wage inflation, postage increases and other third party price rises. For PR19 residential retail costs will again not be indexed by general inflation.

South West Water does expect to suffer input price pressures (IPP) during 2020-25 and we have received independent external advice which outlines the expected level of IPP based on underlying macro-economic conditions and those specific to retail in the South West Water area. It considered a number of key factors in assessing the % IPPs:

- Economic factors – including inflation and wider economic performance such as GDP
- Trend analysis – extrapolating existing trends currently seen
- Independent third-party forecasts – reviewing certain input cost forecasts already available
- Considering the scope for productivity and frontier shift in efficiency from Ofwat cost assessment models.

The outcome reflected a low, central and high forecast. Excluding the impact of bad debts (which are already targeted with over 20% efficiency over 2020-25) the average range for price rises was 1.96% to 2.85% with 2.22% being the central case.

We believe that the external modelling and forecasts from Economic Insight support an increase in residential retail costs as a result of IPPs. However, we recognise the continued need to push the frontier for efficiency and therefore we have assumed that only 50% of any increase would be included in the cost base of the residential business plan and 50% would be targeted as additional efficiency.

As a result the following cost increase has been included in residential retail costs.

	2021 £m	2022 £m	2023 £m	2024 £m	2025 £m
Input Price Pressures (IPP)	1.94%	2.16%	2.34%	2.34%	2.34%
IPP impact	0.344	0.734	1.166	1.608	2.061
<b>50% assumed in cost base</b>	<b>0.172</b>	<b>0.367</b>	<b>0.583</b>	<b>0.804</b>	<b>1.030</b>

## Forecast totex levels 2020-25 continued

### Bad and doubtful debts

Within the Retail Household Revenue Control for 2015-20 we pursued a significant efficiency challenge by targeting a reduction by 2019/20 in the annual charge to £13.34m, a reduction of 20% from the 2012/13 level within the South West Water region.

During the period 2015-20, the allowance for bad and doubtful debt charges residential (household) customers was £13.34m for South West Water and c. £0.36m for Bournemouth Water.

The South West Water allowances represented a c. 50% uplift from the base average cost to serve reflecting the size of bill and the levels of deprivation in the South West Water region, as identified through the econometric modelling of the efficient level of bad debt charges for the South West Water region.

Between 2015-2020, we have worked hard to deliver improvements in cash collection (focusing on debt collections) but also ensuring customers are on the correct tariff. Specific actions to improve debt collection activities and mitigate debt include:

- Delivering significant improvements to debt collections systems and processes through the replacement of the debt recovery system enhancing recovery and leading to a more seamless customer focused debt journey
- Improved case resolution of high value debtors, including those with large volume issues

- Increased enforcement activity, increasing engagement and payments of those hardened debtors with the means to pay
- Increasing staff capacity, capability and retention through up-skilling, promoting ownership and fostering a more motivating environment
- Bespoke communications to high value debtors, including customers post litigation activity, 'Here to Help' trials and a pre court action letter
- Reduction of previous occupier debt using third parties to trace customers.

As well as robustly driving collections we have also increased the level of support given to those customers who struggle to pay which includes:

- Introduction of doorstep visits earlier in the debt process with a focus on the customers' circumstances to identify those 'can't pay' customers
- Supporting customer benefit reviews (WaterCare+) to increase the income to the household
- Promoting the benefits of metering and the potential savings
- Offering a range of affordability initiatives alongside our social tariff such as ReStart and Freshstart.

These targeted activities has resulted in a 29.3% reduction in bad and doubtful debt costs since 2012/13.

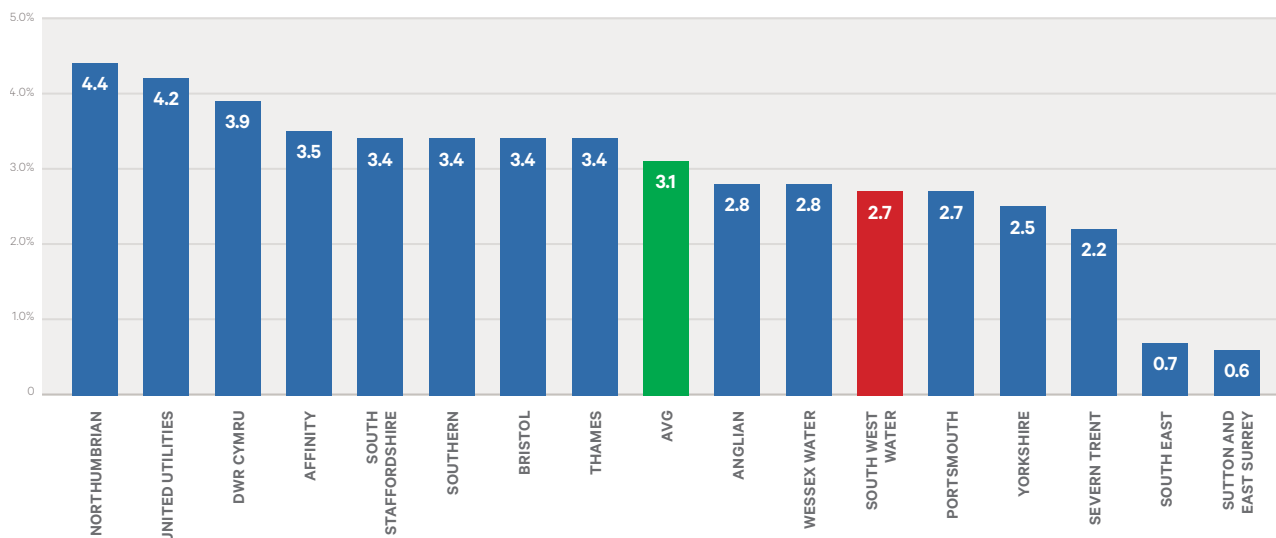
	2012/13*	2015/16	2016/17	2017/18	2018/19	2019/20
	£m	£m	£m	£m	£m	£m
Actual / forecast doubtful debt charges	16.014	14.587	12.443	11.326	11.300	11.276

\* 2012/13 reflects South West Water doubtful debt charge only

**Forecast totex levels 2020-25** continued

As a result of the significant savings and the use of econometric modelling in the methodology we no longer require a specific adjustment for bad debts. The improvements in recent years have seen South West Water’s charge as a % of revenue reduce and is now better than the industry average (on an IFRS accounting basis, this reduces to 0.8% of revenue):

**Doubtful debt / revenue 2017/18 (%)**



For the period 2020-25, South West Water is continuing to focus on reducing our doubtful debt charges. Complementing our affordability initiatives the key areas of focus will be. Indeed, Oxera's analysis of our doubtful cost show that our forecast levels are within the Upper Quartile.

- Working to be recognised against the Money Advice Service Supportive Creditor Standard, offering proactive and early intervention and providing help which is accessible to all and which reflects individual circumstances
- Enhancing our systems so that we can use data to better identify customers that require help, engaging as early as possible to drive positive payment outcomes
- Digitally engaging with our customers through the use of videos, infographics and animations to create a ‘personal’ service feel
- Improving signposting to support groups and real time feedback on online applications for our affordability tariffs to encourage positive payment behaviour
- The Digital Economy Bill will also allow information sharing between water and sewerage undertakers and public authorities. This will benefit our customers by helping to reduce water and sewerage costs, improving water efficiency and financial well-being for our customers resulting in reduced doubtful debt charges.

These activities are expected to deliver savings over 2020-25 as profiled below and are expected to be within the efficient level when considered in the residential retail cost assessment:

	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m
Doubtful debt savings (from 2017/18 base)	(0.513)	(1.026)	(1.538)	(2.051)	(2.564)
Doubtful debt charge	<b>10.813</b>	<b>10.300</b>	<b>9.788</b>	<b>9.275</b>	<b>8.762</b>



## Forecast totex levels 2020-25 continued

### Efficiencies

Throughout the development of our plans for 2020-25, we have looked at how we can improve our own efficiency in order to offset the cost impact of necessary investments and rising input price pressures. Across both wholesale and retail activities we have examined best practice in our own industry and elsewhere to identify where savings can be made.

Our approach in assessing total expenditure efficiency has been where particular major capital projects are specifically geared towards achieving operational efficiencies, to bring specific figures for efficiency savings from the investment appraisals into the overall efficiency calculation. The projects treated in this way are:

- Development of our Resilient Service Improvement (RSI) programme
- Energy efficiency and generation projects.

### Resilience – Resilient Service Improvement (RSI) project

In reviewing the resilience of our business for the long-term, we have challenged ourselves to identify improved ways of working that will ensure we can contend with all the external pressures we face and continue to provide a consistent, reliable and high quality service in an efficient way.

In reality, this reflects our ongoing effort to innovate and drive continuous improvement in the delivery of our service across both water and wastewater operations. Building on a long track record of delivery from previous business change programmes such as PUROS during 2010-15 – Phased Utilisation of Remote Operating Systems and iOPS – Intelligent Operations in 2015-20; the RSI transformation programme has been established to take the next leap in our delivery of high quality service and efficiency, with a renewed focus on ensuring we deliver a resilient service for our customers.



For more information, see [Totex, ODIs and innovation submission to Ofwat](#)

The programme is centred on the key themes of service, data and our people. Recognising that our customer's experience of our service should be at the heart of everything we do, we are reconfiguring our business to ensure that service delivery is a shared priority across all our planning, wholesale delivery and service business functions.

Effectively using data by making sure that all stakeholders can access the same information whenever they need to, will underpin effective and responsive service and our targeted industry leading performance.

Having people with the right modern skill-sets, working flexibly and motivated to deliver excellent and efficient service will ensure that our business can respond to the changing landscape as we move into 2020-25.

In preparation for this next step on our journey of change, we have engaged with employees at all levels in our business – from Board Directors through to field technicians – to ensure there is a shared understanding of our strategic delivery priorities, what needs to change and how we are going to get there. We have done this in a thorough and systematic way supported by PA Consulting and using their established 'One Page Strategy' (OPS) approach.

The OPS provides us with a clear roadmap of change which we will deliver throughout 2020-25. Uniquely, the OPS literally documents our whole business delivery strategy on a page and provides a new tool which will be used within our normal business processes to ensure our activities and improvement projects are all contributing to our delivery vision. This coordinated approach will ensure delivery and efficiency but also provide a powerful way of communicating our strategy with all stakeholders.

RSI is focused on delivering an improved and resilient service and we have already begun to develop and plan those activities which give rise to significant savings to be delivered early in the programme – benefiting customers through an efficient cost base.



For more information, see [Innovation](#)

2017/18 price base	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m	Total £m
<b>Capex investment</b>	3.000	4.934	4.934	1.000	1.000	14.868
<b>Wholesale efficiencies</b>	(0.600)	(1.000)	(1.600)	(2.000)	(2.000)	(7.200)

## Forecast totex levels 2020-25 continued

### Energy efficiency, generation and battery storage

The plan includes a total investment of £9.5m over the 2020-25 period on specific energy efficiency activities. The overall operating cost efficiencies targeted from these investments are:

2017/18 price base	2020/21 £m	2021/22 £m	2022/23 £m	2023/24 £m	2024/25 £m	Total £m
<b>Capex investment</b>	1.814	1.900	1.988	2.080	1.683	9.455
<b>Benefits:</b>						
Energy efficiency – investment in improving rotating assets (pumps)	(0.056)	(0.145)	(0.252)	(0.289)	(0.328)	(1.070)
Energy efficiency – investment in the “PowerDown” programme	(0.014)	(0.035)	(0.048)	(0.061)	(0.072)	(0.230)
New renewable energy (self supply and private wire schemes)	(0.242)	(0.460)	(0.480)	(0.480)	(0.480)	(2.142)
Battery storage and grid services	(0.058)	(0.140)	(0.220)	(0.220)	(0.220)	(0.858)
<b>Net efficiency</b>	<b>(0.370)</b>	<b>(0.780)</b>	<b>(1.000)</b>	<b>(1.050)</b>	<b>(1.100)</b>	<b>(4.300)</b>

Our primary goal is to continue to reduce the usage of energy and to optimise the operation of assets with no loss of the quality to our service, and our investments in energy efficiency help in achieving this goal.

South West Water aims to increase the efficient use of energy through implementation of technology and through behavioural changes. This is planned to be achieved by identifying inefficiencies which require an increase in data sources, better visualisation of data and innovative usage of data analytics.

#### Energy efficiency & PowerDown programmes

Efficiency programme interventions comprise the permanent monitoring of high value and / or high energy consumption equipment and a regime of pump testing. The efficiency programme will also scrutinise and trial new technologies

and innovations, and will apply these where there are demonstrable benefits.

Our PowerDown programme aims to expand its activities 2020-25, and will explore using enhanced monitoring and asset level sensors to gather more data to support targeted energy saving activities.

Other non-pumping and non-aeration related energy efficiency opportunities, for example on-site processes including lighting, heating and ancillary site processes, all fall within the remit of the PowerDown energy efficiency programme.

The specific energy efficiency initiatives will deliver savings growing to £0.4m per annum by 2024/25 and will also contribute to our greenhouse gas emission targets by reducing carbon emissions.

The profile of costs and benefits is shown in the table of energy efficiency impacts below:

2017/18 price base	Unit	2020/21	2021/22	2022/23	2023/24	2024/25	Total
<b>Capex investment</b> (includes investment in energy efficiency + maintenance systems improvements)	£m	0.440	0.440	0.440	0.440	0.440	2.200
<b>Benefits:</b>							
Impact on GWh from investment in energy efficiency	GWh	(0.560)	(1.370)	(2.240)	(2.544)	(3.490)	(10.204)
ktCO <sub>2</sub> e carbon reduction	ktCO <sub>2</sub> e	(0.127)	(0.295)	(0.449)	(0.482)	(0.572)	(1.925)
<b>Net efficiency</b>	<b>£m</b>	<b>(0.070)</b>	<b>(0.180)</b>	<b>(0.300)</b>	<b>(0.350)</b>	<b>(0.400)</b>	<b>(1.300)</b>





## Forecast totex levels 2020-25 continued

### Renewable energy generation and energy storage

South West Water aims to jointly develop suitable renewable energy schemes with third parties on land owned by South West Water or using others' land adjacent to South West Water sites. These schemes will include private wire energy transfers which will help offset the National Grid non-commodity charges which have been rising and are forecast to rise at an increasing rate. South West Water aims to purchase power from these schemes under Power Purchase Agreements (PPAs), with the purchased energy contributing to South West Water's renewable energy and carbon reduction targets.

The profile of costs and benefits for our investments in energy generation and storage is as follows:

2017/18 price base	Unit	2020/21	2021/22	2022/23	2023/24	2024/25	Total
<b>Capex investment</b> (Energy Supplies and Generation)	£m	1,374	1,460	1,548	1,640	1,243	7,265
<b>Benefits:</b>							
GWh reduction*	GWh	(1,534)	(3,120)	(5,048)	(5,762)	(6,357)	(21,844)
ktCO <sub>2</sub> e carbon reduction as a result of above investment	ktCO <sub>2</sub> e	(0,348)	(0,673)	(1,012)	(1,091)	(1,041)	(4,165)
<b>Net efficiency</b>	£m	<b>(0,300)</b>	<b>(0,600)</b>	<b>(0,700)</b>	<b>(0,700)</b>	<b>(0,700)</b>	<b>(3,000)</b>

\*Note: includes gross GWh reduction as a result of investment in energy efficiency and GWh grid import avoided by switching to embedded renewable energy and imported renewable energy through private wire).

Our aim in selecting projects is to provide demonstrable benefit to customers through cost saving efficiencies which help to keep bills down. We plan to invest in a broader range of technologies than in previous periods and adopt a flexible and innovative strategy to deploy new technologies that can deliver cost savings or greater resilience.

### Change from 2017/18 baseline

By modelling the impact of our forecast changes in our energy usage and consumption patterns on the next seven years, based on the programme of our planned interventions, we can estimate how our energy consumption is likely change out to 2024/25. This is shown in the table below. We can predict that our overall energy usage will remain relatively stable over the period with interventions in energy efficiency counteracted by the impact of additional energy intensive process requirements and the inevitable deterioration and gradual reduction in efficiency of rotating assets such as pumps.

Movement against 2019/20 forecast baseline (GWh)	2020/21	2021/22	2022/23	2023/24	2024/25
Gross forecast growth in energy consumption as a result of additional process requirements and asset deterioration	2,533	4,599	5,785	6,101	6,106
Gross impact of energy reduction from investment in energy efficiency	(0,56)	(1,37)	(2,24)	(2,544)	(3,49)
Gross impact of investment in the switching of energy consumption from grid imported electricity to additional renewable energy self-supply and private wire opportunities	(1,534)	(3,12)	(5,048)	(5,762)	(6,357)
Electricity	277	277	277	279	281
Other	10	10	10	10	10
<b>SWW Net Forecast Overall Energy Consumption</b>	<b>287</b>	<b>287</b>	<b>287</b>	<b>289</b>	<b>291</b>



## Forecast totex levels 2020-25 continued

### 2020-25 investment programme

The capital programme has been developed to ensure our investment plans are efficient and we have incorporated a 5.0% efficiency challenge against our modelled cost projections. Further details on our specific investment plans can be found in our investment summary supporting document.

The capital programme is broadly aligned with the investments planned at the last price review (PR14), however a higher proportion of quality and enhancement schemes are planned:

2017/18 price base	PR19 (2020-25) £m	Business Plan (2015-20) £m
<b>Enhancement</b>		
Quality	244	168
Enhanced service levels	83	82
Supply demand	140	141
Isles of Scilly	35	-
<b>Maintenance</b>		
IRE	159	182
Capital maintenance	275	293
Management and general	120	162
<b>Total</b>	<b>1,056</b>	<b>1,028</b>

\* Table derived from bottom-up proportional allocation of QBEG in alignment with financial model.

For 2020-25, the investment programme has been separated into the four wholesale revenue controls, however the majority of investment remains with the two network plus areas. The increase in water investment reflects the investment of two new water treatment works in the Bournemouth Region (Knapp Mill and Alderney).



For more information, see [Investor Summary](#)

2017/18 price base	PR19 (2020-25) £m	PR19 (2020-25) £m	Business plan (2015-20) £m
Water resources	23	478	440
Water network plus	455		
Wastewater network plus	545	575	585
Bioresources	30		
Retail	3	3	3
<b>Total</b>	<b>1,056</b>	<b>1,056</b>	<b>1,028</b>

The planned capital investment programme for 2020-25 is £1,056m and an increase from the 2014 price review largely reflecting the capital investment needs for the Bournemouth Water operating area, Isles of Scilly investment and an increase in statutory requirements for wastewater.

Investment highlights – 2017/18 price base	PR19 (2020-25) £m	Actual (2015-20) £m
Capital maintenance	634	592
Water Quality Programme (Water Industry National Environment Programme)	169	124
Strategic new water treatment works in Bournemouth	89	44
Drinking Water Quality Programme (including for taste, odour and discolouration)	53	31
Isles of Scilly	36	0
Resilience	75	59
<b>Total</b>	<b>1,056</b>	<b>850</b>

\* Table derived from programme delivery analysis so may not align with QBEG based assessment.

### Capital maintenance – £634m

To maintain asset health and reliability across our water and wastewater services we have maintenance requirements of £634m. The level of legislative driven improvement in the south west has been significant over the last 30 years and capital maintenance is required to keep those assets serviceable. For all our investments we will be mindful of resilience when developing solutions.

Our investment to provide for the growth forecast in our region is also included within this figure.

### Wastewater quality programme (WINEP) – £169m

Considerable effort has been applied to translating the WISER and WINEP into a programme of improvement works. This statutory programme was agreed with the Environment Agency following modelling and cost benefit consideration where the statutory drivers provide for that test. The main new requirements relate to protecting and enhancing bathing waters and shellfish waters, protecting and improving rivers for the Water Framework Directive and better flow and storm water management for the Urban Wastewater Treatment Directive.

### Strategic new water treatment works in Bournemouth

#### Knapp Mill water treatment works – £89m

This investment will see the replacement of Knapp Mill water treatment works at Bournemouth with a solution based on the advanced ceramic filter technology being employed at the new Mayflower works.

## Forecast totex levels 2020-25 continued

The proposed solution will deliver an efficient treatment process with low energy requirements, very low chemical and waste production as well as a much reduced embedded and operational carbon cost. The investment delivers stable serviceability, trihalomethane improvements, reduced cryptosporidium and the lowest cost to serve in the long term.

### Alderney water treatment works

Alongside the proposed investment for replacement of the Knapp Mill works in the Bournemouth Water region there is an additional need to replace or significantly upgrade the Alderney works. There is clear support from the Drinking Water Inspectorate (DWI) for this investment as the current Alderney works is on their 'aged assets' register and has been subject to enforcement action in the past. The new works would be commissioned in 2026/27.

### Drinking water quality programme – £53m

Our customers' top priority remains a reliable safe clean water supply. To enable us to achieve safe 100% compliance with water quality standards and to ensure we have the correct systems in place to deliver that performance into the long term, we need to invest in our water treatment works. This investment alongside our Upstream Thinking programmes will also help us manage any deterioration in our raw water quality. Investment in 2020-25 is targeted at pesticide risk, taste and odour, trihalomethanes, manganese control and lead management.

### Isles of Scilly – £36m

Subject to final agreements by all parties – investment in the adoption of the Isles of Scilly assets. The current programme is based on a five island solution and will deliver improvements to water, wastewater services and security of supply, with a view to bringing them into line with wider UK regulatory standards. This programme aligns with that submitted to Defra and has been reviewed and supported by the Water Minister.

### Metering and smart meter installation – £31m

This investment delivers a baseline replacement of old meters alongside an enhanced roll out of Automated Meter Read (AMR) meters in place of standard meters. This would include replacement of all meters in dangerous locations and many internally located meters which are difficult to access.

The third element of the metering investment would be targeted AMR installation for customers who are currently unmetered. This will then allow the provision of dual bills for such customers, so that they can make an informed choice about whether to switch to a metered bill. This strategy will also support vulnerable customers and deliver other benefits such as reducing consumption, fairer charging and leakage management.

### Upstream Thinking – £17m

Building upon the award-winning work that has been delivered in 2015-20, this investment continues the improvements in those catchments that are designated Drinking Water Protection Areas. This work will be delivered in partnership with charitable organisations (Rivers and Wildlife Trusts), land owners and the EA, potentially facilitating their access to other funding sources (through matching). We will also be applying these principles to target nutrient reductions and benefit our wastewater service and their associated environmental outcomes.

### Resilient Service Improvement (RSI) – £15m

The RSI programme will build on the successes of the PUROS and iOPS workstreams and will deliver enhanced operational capability and deliver new ways of working that take advantage of advances in data analytics, automation and centralised monitoring and control. This will be focused on providing resilient services to our customers and the environment.

### Downstream Thinking – £12m

Downstream Thinking investment continues our approach to flood risk improvements and resilience. It supports our 25 year vision to prevent harmful pollution incidents and flooding from our sewers. We will continue to work in partnership with other parties (Lead Local Flood Authorities, EA, developers etc) to identify locations and solutions where multiple benefits can be delivered. Solutions include Sustainable Drainage Solutions (SuDS), sewer separation, major projects such as the Exeter Flood Defence Scheme, and continuing our existing approach to enable the reduction of the number of properties affected by sewer flooding.

## Forecast totex levels 2020-25 continued

### Cost base development

South West Water delivers a significant percentage of its investment programme through the H50 Delivery Alliance. Other elements of work are delivered through framework contractors and suppliers with a small percentage competitively tendered.

Our cost base development submission builds on the methodology and approaches developed for PR14, using the same estimating systems and techniques used to price the business plan and the company's estimating for the investment programme.

Robust assurance of the cost modelling process and the cost models themselves has been carried out by Jacobs. The assurance focused on the cost data capture process, the method for cost model creation and the application of cost models to business plan estimates. The audit findings from Jacobs endorsed the robustness of the cost models and their application to the business plan.

South West Water was interested to know how its costs compare with water industry peers. The company therefore requested its consultant cost managers to provide an insight into how its costs compare to its peers within the water industry.

We engaged industry experts, Chandlers KBS and Aqua Consultants, to undertake a review of our cost models and data compared to peers within the industry. They concluded that, based on the comparative information available, South West Water models are competitive with a good indication that the models are efficient and with limited scope for further efficiencies at the business planning stage.

The company has been undertaking investment using a partnering approach in conjunction with competitive tendering since the early 1990s. The approach to partnering has progressively developed from a project-based approach through to programme partnering to the Alliance-based approach in use now.

Over successive investment periods the composition of the company's investment programme has changed. The previous investment periods were characterised by large scale coastal bathing waters and the urban wastewater treatment directive (UWWTD) wastewater treatment projects on largely 'green field' sites which allowed a significant reduction in on-costs to be achieved, arising from economies of scale and project management approaches.

In more recent times the nature of the investment has changed and is continuing to change. It is characterised by increasing capital maintenance spend (following large quality legislative investment) with programmes characterised by large numbers of small value projects involving intervention on existing processes. This meant that the company's needed to further review whether previous delivery arrangements were appropriate.

We actively undertake a review of our investment delivery arrangements to ensure that we remain at the forefront with our delivery model.

In undertaking these reviews we complete the following activities:

- Internal benchmarking review with current supply chain partners
- Targeted discussions and visits to other Water Companies
- Best practice reviews.

This review resulted in the creation of our 'mixed economy' Delivery Alliance which ensures that the company is well placed to take advantage of the benefits associated with long term supply chain relationships whilst utilising a significant number of smaller local contractors who provide specialist services to the company.

The model acknowledges the significant change towards maintenance-driven investment and the smaller scale of project that results. Through our Alliance approach the model is specifically aimed at providing an appropriately resourced and costed response to the wide range of projects in the programme, from the relatively few large and complex projects to hundreds of simple maintenance projects costing less than £50,000 each.

The commercial model has developed to reflect tightening efficiency targets whilst providing incentivisation for selected partner contractors and consultants to outperform within agreed and independently benchmarked target costs.

In order to meet the challenge of delivering small spend capital maintenance projects the work is, where practical, aggregated into 'work packages' which are let as single contracts with multiple outputs to maximise delivery efficiencies.

Working alongside our asset management teams we aim to fix the majority of the programme. A target of 70% of the programme on a two year rolling basis is set for the Delivery Alliance to allow effective programming, in order to optimise delivery efficiencies.

The ethos of work allocation is on a 'best supplier for the job' basis thus avoiding 'cost on cost' arrangements where suppliers charge an overhead to sub-contracted services.

These arrangements with the local supplier base wherever possible provides inward investment into the local economy. In fact, research compiled by Plymouth University Business School in 2017 suggests that the company and its investment programme supports approximately c. 6,000 jobs in the region.

Looking forward, post 2020, the Alliance will maintain its approach to reviewing procurement and delivery by comparing South West Water's practices with current construction industry best practice and identifying any gaps, and to make recommendations for future procurement strategy and delivery including organisational and process changes where appropriate.

## Forecast totex levels 2020-25 continued

Our intention is to develop, maintain and sustain long term relationships between client, designers, contractors and key suppliers with collaborative contracts containing non adversarial forms of contract. We encourage this collaborative behaviour with everyone incentivised to deliver for the client and customer.

**We have tested the costs and benefits of our entire capital programme, including base service and service improvements. We believe that our business plan overall offers a high degree of cost benefit and value for customers.**



For more information, see **Commercial evaluation of the PR19 investment programme**

## Cost efficiency: Delivering efficiency in our investment plan

### Process

We believe that the costs included within our plan are at an efficient level and build on both the underlying efficiency built into the 2015-20 price review and also the significant totex outperformance delivered over this regulatory period.

The efficiency targeted during 2015-20 was 2.5% per annum operating cost reductions and 5.5% embedded efficiencies within the capital programme. We have targeted a similar level of efficiency for 2020-25 to further drive the frontier in the industry.

Operating cost efficiency has been targeted across the business and includes the following planned savings:

	Per annum savings
Wholesale – operating cost efficiencies on base service costs	1.0%
Wholesale – inflation efficiencies (RPI to CPIH)	1.2%
Wholesale – benefits delivered through the RSI project	0.2%
Wholesale – energy efficiency and generation	0.2%
Retail – further bad debt reductions	0.3%
Retail – input price pressure	0.1%
<b>Total</b>	<b>3.0%</b>
<b>Operating costs capital programme efficiencies</b>	<b>5.0%</b>

This wholesale efficiency target has been independently challenged by external third party analysis for South West Water by Oxera, who have used past data (including the latest 2017/18 annual performance reports) to assess the relative efficiency for the wholesale and retail revenue controls – both separately and in aggregate.

Whilst the final Ofwat PR19 cost assessment models have not been published, the analysis by Oxera reflects both the cost assessment models South West Water developed and also the feedback published as part of the cost assessment consultation.

For wholesale services, Oxera used the models submitted by South West Water as part of the cost assessment consultation, updated with the 2017/18 data, cost definitions used by Ofwat in the consultation, some minor revisions to cost drivers given feedback during the consultation, and adjustments for RPI/CPIH to ensure consistency with the business plan figures. Given the focus in the cost modelling consultation was on botex modelling, Oxera similarly focused on botex modelling in this top-down challenge.

For the period 2020-25, we have continued to challenge our cost base and have included costs in our business plan only where we believe they are necessary and for price rises above general inflation we have obtained third party evidence to support such increases.

We commissioned Oxera to review the efficiency of our 2020-25 forecast expenditure in wholesale services in aggregate and the individual revenue controls using top-down cost assessment models of the water industry. This has provided an independent challenge to our operational plans. Oxera have used historic data combined with forecast data to assess the efficiency of our plans.

### Operational innovations and efficiency improvements

We have now embedded a number of new technologies and approaches within the business, further new technologies and approaches are being examined, trialled and planned to be used over 2020-25 and beyond.

In addition, as part of our forecasting of efficient costs we have further extended the efficiency challenge by overlaying a general ongoing efficiency challenge (or frontier shift) of 1.0% p.a. to capture both known technological developments over the period and unknown developments.



For more information, see [Accounting for Past Delivery](#)

Innovation will contribute towards delivering the most efficient investment plan possible.

For more information see 'Innovation' supporting document and totex, ODIS and innovation submission to Ofwat on 20 December 2017.

For more information, see



[Innovation](#)



[Totex, ODIs and innovation submission to Ofwat](#)



[Targeted Controls, Markets & Innovation](#)

**Cost efficiency: Delivering efficiency in our investment plan** continued

We have also separately commissioned Oxera to independently assess the efficiency of our historic data from a top-down perspective, across the five revenue controls: water resources, water network plus, wastewater network plus, bioresources and residential retail.

In developing top-down models, Oxera has primarily relied on operational insights of key cost drivers for the industry. The process of model development also drew from models and precedent at PR14, the Competitive Markets Authority (CMA) review and Ofwat’s recent modelling consultation. The scope of benchmarking analysis was South West Water’s level of totex and botex (base totex) spend, less uncontrollable costs. These were defined consistently with the definition used within models published by Ofwat at the modelling consultation.

**Forecasting efficient expenditure levels for the wholesale water activities**

In PR14, South West Water was assessed by Ofwat to be an efficient company in wholesale water totex, both with regards to our historical costs and our forecast costs over the 2015-20 regulatory period. Despite this, frontier position we have continued to focus on innovation and how to improve our efficiency and, indeed, have achieved significant efficiency improvements in these areas.



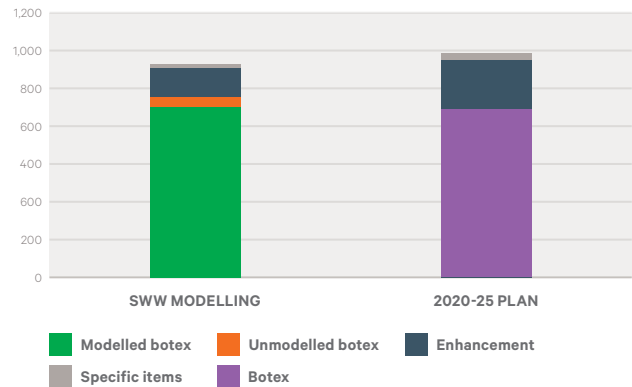
For more information, see [Accounting for Past Delivery](#)

For the period 2020-25, we have continued to challenge our cost base and have included costs in our business plan only where we believe they are necessary and for price rises above general inflation, we have obtained third party evidence to support such increases.

We commissioned Oxera to review the efficiency of our 2020-25 forecast expenditure in wholesale water services in aggregate and the individual revenue controls of network plus and water resources using top-down cost assessment models of the water industry. This has provided an independent challenge to our operational plans. Oxera have used historic data combined with forecast data to assess the efficiency of our plans.

Oxera modelled botex at the aggregate service level, as well as price control level (i.e. network plus and water resources). In each level of aggregation, Oxera used a suite of models. These suites of models provide the ranges and basis for the average values shown in the figures below.

**Cost assessment – water**



Forecast botex costs for 2020-25 are below the modelled output for frontier efficiency and reflects that we have maintained our position as frontier and the savings we have made in the period 2015-20, including the merger of Bournemouth Water have ensured this.

This frontier performance is consistent when evaluating our business plan at the revenue control level (water resources and network plus). The detailed revenue control analysis is included within the individual revenue control documents.



For more information, see [Network Plus Water Wholesale Revenue Control](#)

Given synergies across service areas, particularly between water resources and water treatment and variability in cost allocation across companies, this acts as a cross check that our cost assessment is accurate.

As a first step, we considered how we compared to the rest of the industry on a pure unit cost basis. Although this doesn’t account for the impact of specific regional operating characteristics, it gives an initial view of the gap to the frontier level of performance in the industry. In order to account for the impact of regional operating characteristics, we developed a suite of econometric models at aggregate, network plus and water resources levels. These models focused on capturing the relationship between costs and a few key industry drivers.

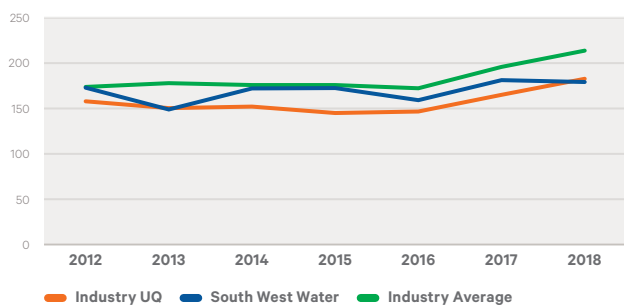
Details on the drivers considered can be found in our response to the Ofwat consultation document.



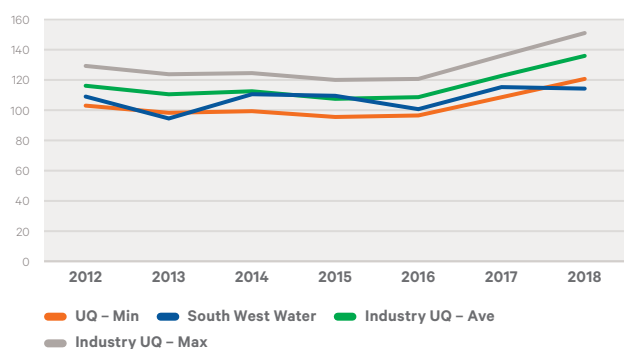
For more information, see [Cost model consultation response](#)

**Cost efficiency: Delivering efficiency in our investment plan** continued

**Historic botex – unit costs (£ property)**



**Econometric botex – unit costs (£ property)**



**Forecasting efficient expenditure levels for wholesale wastewater activities**

In PR14, for wholesale wastewater, our historical costs were assessed to be average across the industry. We recognised that we needed to be more efficient in delivering our wastewater services and have continued to focus on innovation and how to improve our efficiency and, indeed, have achieved significant efficiency improvements in these areas



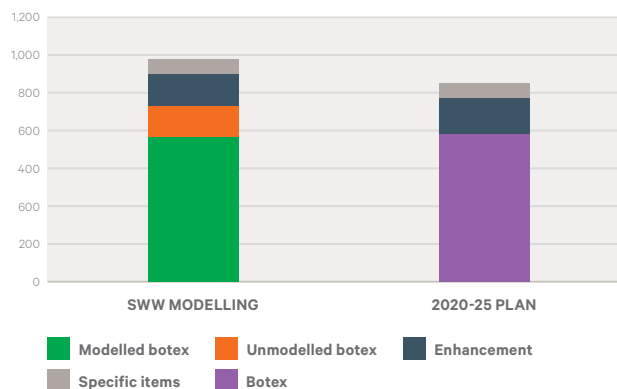
For more information, see [Accounting for Past Delivery](#)

For our 2020-25 business plan, we have continued to challenge our cost base and have included costs in our business plan only where we believe they are necessary and for price rises above general inflation we have obtained third party evidence to support such increases.

We commissioned Oxera to review the efficiency of our 2020-25 forecast expenditure in wholesale wastewater services in aggregate and the individual revenue controls of network plus and bioresources using top-down cost assessment models of the water industry. This has provided an independent challenge to our operational plans. Oxera have used historic data combined with forecast data to assess the efficiency of our plans.

Oxera modelled botex at the aggregate service level, as well as revenue control level (i.e. network plus and bioresources). In each level of aggregation, Oxera used a suite of models. This suite of models provide the basis for the forecasts shown in the figure below.

**Cost assessment – wastewater**



South West Water has delivered significant totex savings over the 2015-20 period and further challenged our operating cost efficiency and capital programme within our business plan, resulting in forecast botex being below the modelled levels. Our higher level of planned enhancement expenditure reflects new obligations and results in totex spend that is higher than the forecast from historic levels of enhancement activity, but reflect the specific nature of the plan.

Moving from aggregate wastewater to the individual revenue controls, South West Water is projected to have lower costs on bioresources, relative to the efficient cost level.

The detailed revenue control analysis is included within the individual revenue control documents.



For more information, see [Network Plus Wastewater Wholesale Revenue Control](#)

Given synergies across service areas, particularly between bioresources and wastewater treatment and variability in cost allocation across companies, this acts as a cross check that our cost assessment is accurate.

As a first step, we considered how South West Water compared to the rest of the industry on a pure unit cost basis. Although this doesn't account for the impact of specific regional operating characteristics, it gives an initial view of the gap to the frontier level of performance in the industry.



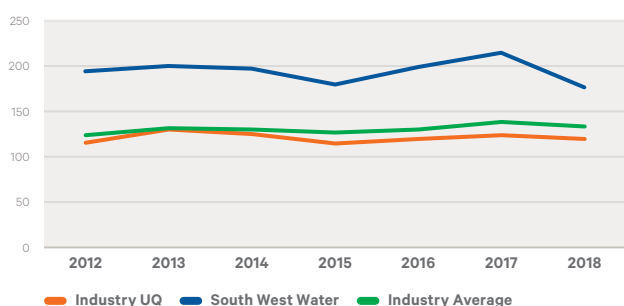
**Cost efficiency: Delivering efficiency in our investment plan** continued

In order to account for the impact of regional operating characteristics, we developed a suite of econometric models at aggregate, network plus and bioresources levels. These models focused on capturing the relationship between costs and a few key industry drivers. Details on the drivers considered can be found in our consultation document.

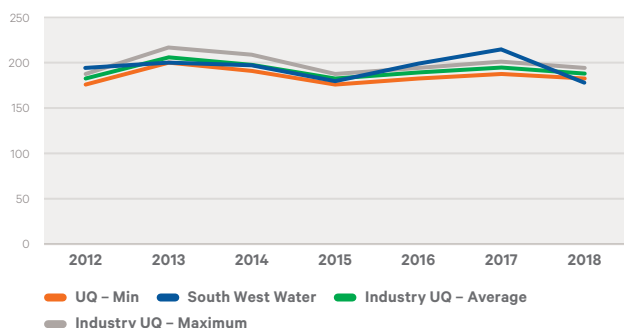


For more information, see [Cost model consultation response](#)

**Historic BOTEX – unit costs (£ property)**



**Econometric BOTEX – unit costs (£ property)**



**Forecasting efficient expenditure levels for residential retail activities, including bad debt costs**

In PR14, South West Water was assessed by Ofwat to be better than the benchmark once regional effects on bad debts had been accounted for. However, we recognised that this was relative to an average benchmark and considered that we could improve our service to customers by further challenging ourselves in this area.

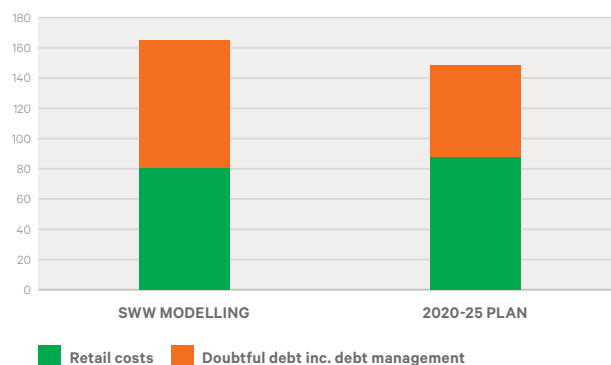
This has been one of the areas where the merger with Bournemouth Water has delivered synergy benefits, in particular, by combining the retail activities, such as one contact centre, back office functions and aligning the debt collection teams to drive improvements. Whilst we have delivered the planned changes the final element is to merge the two billing systems which is underway and will be completed during 2018/19.

This will give Bournemouth Water customers access to online account services and fully align the customer journeys for all contacts across both regions. This will ensure South West Water retail costs remain efficient and help to offset some of the input price pressures within the retail business.

In addition to cost savings we have also significantly reduced our bad and doubtful debt charge by c.29% from 2012/13 and we are forecasting for the charge to be 19% below the 2014 Final Determination allowances. We are also targeting further reductions during the 2020-25 period.

We believe that South West Water’s retail business efficiency has significantly improved our industry position. Similarly to the wholesale cost analysis we commissioned Oxera to review the efficiency of our 2020-25 forecast expenditure in retail, including bad debts using top-down cost assessment models of the water industry. This has provided an independent challenge to our operational plans. Oxera have used historic data combined with forecast data to assess the overall efficiency of our plans.

**Cost assessment – retail**



Oxera modelled operating costs plus depreciation at the aggregate service level, as well as for bad debt and debt management costs and other costs. In each level of aggregation, Oxera used a suite of models. This suite of models provide the ranges and basis for the average values shown in the chart. Based on the Oxera’s analysis our residential retail costs are £17m lower over 2020-25 than the efficient level.

Total retail costs are remaining broadly flat over 2020-25 as South West Water targets a further reduction in the doubtful debt charge with a small increase in debt management costs to achieve this. The increased costs are to enhance the services to our customers and support customer growth. It also includes the focused and targeted increase in metering (including dual metering and smart meters) as well as the additional support for customers in vulnerable circumstances and those with affordability issues.



For more information, see [Residential Retail Revenue Control](#)



## Cost adjustment claim submission

We consider below company specific cost pressures and factors that may impact wholesale cost assessment and require a cost adjustment claim.

Our submission aligns with the guidance Ofwat set out in its information notice (IN 18/02) and we have also taken account of Ofwat’s guidance in its final PR19 methodology document, notably, we have:

- Considered **three types of cost adjustment claims**
  - Atypical large investments
  - Material new costs (e.g. new statutory requirements)
  - Regional operating circumstances
- Identified which part of **the value chain** each of these cost adjustments relate to
- Critically reviewed possible cost adjustments, discarded many, and raised cost adjustment claims only where there is **strong initial evidence** that an adjustment may be required. The uncertainty as to whether some claims will be necessary relates to regional cost adjustment claims – some of these claims (discussed below) may be appropriately captured in Ofwat’s cost modelling for PR19 and, if so, would not then be relevant as a separate adjustment. However, we note that the current cost assessment modelling consultation indicates that there is a possibility that they will not be appropriately captured
- Taken an **‘in the round’ view**. That is, we have taken a balanced approach, recognising costs that may be under or over estimated by Ofwat’s costs models
- Taken a **symmetric approach** to regional cost adjustments. That is, while we have considered operating circumstances that increase costs in our region, we have also considered whether there are **circumstances that** might reduce costs in our region
- Examined each claim in relation to the **evidence required** by Ofwat.

As a result, we are only submitting three atypical large investment claims. Five other possible claims were discounted on the working assumption that Ofwat cost models will adequately deal with South West Water operating conditions.

The cost assessment models for PR19 have been consulted on (consultation document published 29 March 2018). We note that the consultation presented a very broad suite of models developed by the industry and Ofwat, and therefore does not enable us to establish whether certain characteristics will be appropriately taken into account or not.

As such, it is currently unclear in many cases whether there will be a need for making certain regional cost adjustment factors.



For more information, see [Cost model consultation response](#)

We have approached this issue by setting out the key cost drivers more generally across the industry, as well as more specifically across South West Water’s region. To the extent that these key drivers are appropriately captured in the final suite of cost models, then these cost adjustments would not be required. We note that, while many of the models consulted on capture, to some extent, the regional cost adjustment claims contained herein, many do not capture them at all (including some of Ofwat’s models) and, if used by Ofwat for establishing our efficient baseline, would require South West Water specific cost adjustment claims.

Wherever possible, claims are supported by both bottom-up and top-down analysis.

Area	£m	Cost adjustment claim
Isles of Scilly	41.3	✓
Knapp Mill WTW	72.6	✓
Alderney WTW	38.3	✓
Water treatment complexity	35.1 - 49.3	✗
Water rurality and topography	30.8 - 45.1	✗
Wastewater rurality and topography	96.7 - 159.1	✗
Wastewater complexity of treatment	30.0	✗
Retail	29.5	✗

At PR14, South West Water received a specific cost adjustment for bad debt reflecting the specific challenges within the region from the size of the bill and relative deprivation in the region. As a result of the significant savings in this area and the expectation that Ofwat models will now reflect these specific measures in the econometric modelling we are not proposing a specific cost adjustment claim for bad debts.

## Cost adjustment claim submission continued

Further detailed analysis on the cost adjustments claims are included in a separate supporting document.



For more information, see  
[Cost model consultation response](#)

### Process followed to establish and quantify cost adjustment claims

We have followed a robust and systematic process to identifying both disadvantageous and advantageous cost adjustment claims. In particular, we have followed a phased approach, including various levels of internal and external challenge, including our WaterFuture Customer Panel (WFCP) in order to minimise the list of factors. This has included:

- Identification of potential ('long list') cost adjustment claims – our starting point for identifying potential regional cost adjustment claims was our PR09 cost adjustment claims submission, where we initially submitted 13 regional cost adjustment claims, and, following feedback from Ofwat, submitted 11 regional cost adjustment claims in our final business plan submission; our 13 regional cost claims and four atypical large investment or material new costs in PR14, and the claims in PR14 by Bournemouth Water
- Discarding of cost adjustment claims – we reviewed this list and discarded claims that were:
  - Specific to the cost models used in PR09 (e.g. economies of scale in business activities) no longer unusual relative to other companies, through an examination of our relative position on key operational cost drivers, e.g. growth and environmental enhancement expenditure. These will both require increases in expenditure going forward but in neither case do we consider that we are atypical. While we do expect significant population growth, we note that Ofwat has stated that such efficient expenditure will be accounted for in PR19
  - No longer material as part of the wider South West and Bournemouth region or significant in our initial top-down regression modelling (e.g. Fawley refinery)
- Further challenge and discarding of cost adjustment claims and finalisation of list – we held a workshop with representatives across the business, where we reviewed, examined and challenged the cost modelling framework, considered the key cost drivers and atypical South West Water specific factors and reviewed our relative position on key cost drivers. Further regression modelling identified any claims where the evidence was weak and these were discarded

- Identification of advantageous cost adjustment claims – we reviewed previous claims by other companies, as published by Ofwat, reviewed our relative position on key cost drivers, undertook regression modelling and considered which, if any, of these might represent favourable factors for us.

In developing our quantification of these factors we have:

- Undertaken a quantification 'in the round'. We have focused on a top-down quantification approach (with bottom-up cross-checks / challenge where appropriate). This ensures the claim is incremental to other (positive and negative) factors and incremental to the characteristics of other water companies
- Calculated net effects, where relevant, offsetting disadvantageous factors with advantageous factors. For example:
  - For sparsity, we have modelled the impact of both sparsity (disadvantageous) and density (advantageous), by examining the u-shape density / sparsity relationship with costs
  - For wages, we have modelled the possible impact of higher wages in London, but did not find a statistically significant impact. This result is consistent with that found by Ofwat in its cost modelling consultation.

## Direct procurement for customers

Our assessment of capital projects suitable for direct procurement, as defined by Ofwat PR19 methodology, has considered the suitability, likely efficiency or inefficiency of a direct procurement strategy, alongside the potential risks to delivery and cost to customers.

We engaged independent external consultants (KPMG) to support our assessment of two projects, on a qualitative and quantitative basis, namely the replacement of water treatment works for Bournemouth Water at Knapp Mill and Alderney.



For more information, see  
**KPMG Direct Procurement Report**

Our conclusion based on independent evaluation is that Knapp Mill is at a borderline level of eligibility for direct procurement based on size and technical assessment. Alderney is considered more suitable in terms of technical eligibility but is below the proposed Ofwat threshold, making its relatively low value less likely to realise value for money for customers.

In both cases, KPMG concluded that there is a significant risk that, although the projects could be considered discrete and could be delivered under a direct procurement model, it will not create value for customers on a risk adjusted basis given the challenges, likely implementation costs and limited potential benefits that a direct procurement delivery route may provide.



For more information, see  
**Targeted Controls, Markets & Innovation**

## Data assurance

The information provided in this report has been produced in accordance with our overall governance and assurance plan. Our justification for our forecast costs are explained in our business planning tables line by line commentaries.

We have not considered costs in one area in isolation of others and have considered costs across the whole business taking a rounded approach to cost assessment and efficiency. Our well justified business plan details our overall strategy with respect to the management of our assets. This recognises the trade-off between different asset maintenance techniques such as replacement, refurbishment, or inspections and maintenance.

Our rounded approach has resulted in only two atypical cost adjustment claims in respect of the Isles of Scilly (a new area of responsibility) and Bournemouth Water (a step change in water treatment technology) subject to other company specific cost factor drivers being adequately factored into the Ofwat model.

Our submission builds on the methodology and approaches developed for, and since the 2014 price review and the submission for this 2019 price review (PR19) has continued to utilise the Engineering Estimating System (EES) following its introduction during PR09. We have developed cost models where relevant investment activity is forecast for 2020-25.

Our cost models have been prepared:

- Independently of other water and sewerage companies
- Top-down from target cost, final actual cost, or bottom-up from estimating procedures and framework supplier rates
- To comply exactly with the reporting requirements and line definitions, including adjustments, exclusions, additions and assumptions.

From a data assurance perspective our forecast cost reporting is prepared by a dedicated team involved in preparing the information. Information is sourced from the business and is subject to a detailed review process by the central PR19 team. This information is then approved by the relevant Senior Manager and Director prior to submission.

This is reviewed by relevant Senior Managers, Directors and authorised at South West Water Board. Both the compilation and the review at Director level are undertaken by a regulatory expert, who understands the details of the business plan and Ofwat's requirements.

For more information, see



**Appointee Summary**  
+ Tables and commentary



**Water Resources Wholesale Revenue Control**  
+ Tables and commentary



**Network Plus Water Wholesale Revenue Control**  
+ Tables and commentary



**Bioresources Wholesale Revenue Control**  
+ Tables and commentary



**Network Plus Wastewater Wholesale Revenue Control**  
+ Tables and commentary



**Residential Retail Revenue Control**  
+ Tables and commentary

## Summary – Initial assessment of plan questions

There are four challenges included within the Initial Assessment of Plans for ‘Securing Cost Efficiency’. These are set out below together with a summary of how we have responded to the challenges and how we demonstrate how we have met these requirements.

### **CE 1 How well evidenced, efficient and challenging are the company’s forecasts of wholesale water expenditure, including water resources costs?**

For PR14, following Ofwat’s risk based review of business plans, South West Water’s wholesale water cost base was assessed as efficient. The costs we submitted in our business plan were assessed as being 16% lower than the risk based review cost threshold on wholesale water.

Subsequently, at the time of the Final Determination, Ofwat assessed our cost base as still setting the benchmark for wholesale water services, at 8% more efficient than the base cost threshold.

Our customer and cost driven culture has realised significant efficiency delivery across the different elements of our water service business, with c. £71.7m of totex outperformance to date. Going forward, we anticipate a further c. £73.1m outperformance by 2020.

We have also delivered on our commitments and are on track to deliver the c. £27m of cumulative totex savings identified over 2015-20 from our merger with Bournemouth Water.

These lower costs and outperformance are built into our base costs. Given our performance, our future efficiency improvements are focused on innovations as we are already at the cost efficiency frontier. Nevertheless, we are still planning to improve over the next AMP. Looking forward, post 2020, any changes from this efficient starting point are supported by strong ‘bottom up’ evidence and independent consultant reports with relevant specialist expertise. At a summary level, even with increased legislative requirements, extending our area of appointment to the Isles of Scilly, and ambitious service targets and overall expenditure increases by less than 5%.

Throughout the development of our plan to 2025 we have looked at how we can improve our own efficiency across all areas of the business. We have examined best practice in our own industry and elsewhere to identify where savings can be made.

Examples of this include market testing and tendering of key contracts and reviewing what has been done in terms of benchmarking within the sector and outside resulting in a shared service project across Pennon Group realising significant savings in South West Water.

We have identified certain costs which whether included within the plan, or currently excluded as being uncertain, could vary depending on a number of factors – such as legislation or timing of implementation. Therefore consistent with PR14 we are identifying these to be included with the WaterShare mechanism for 2020-25.

Detailed comparative analysis and benchmarking, supported by independent cost consultant reports and econometric cost modelling, validated our assertion that ‘top down’ the costs included in the plan are efficient. This is supported by our historic position in water services. Top down analysis over the historic period 2011/12 – 2017/18 shows that we have maintained our upper quartile efficiency position (6.3 percentage points better than the UQ) on total wholesale water spend, while on water network plus and water resources we are 3.5 and 0.4, respectively, percentage points better than the UQ.

As a leading company, we also contribute to setting a challenging catch-up target to those firms who are not operating at the efficient frontier. Based on our historic spend from 2011/12 – 2017/18 we have made the upper quartile challenge for wholesale water 4 percentage points more challenging. Looking at the network plus and water resources controls separately, we have increased the level of challenge by 2 and 3 percentage points respectively.

These costs were used to derive the bills used in the initial phase of customer acceptability testing. Despite strong customer acceptance of our plans, affordability of our bills was still an area of concern for some customers. As a result Board challenged management with a further 0.5% stretch efficiency target across all expenditure to reduce our costs even further. Our plan was then retested with customers with a lower bill resulting in the best ever acceptance from South West and Bournemouth customers at 88% and 92% respectively.

## Summary – Initial assessment of plan questions continued

### **CE 2** How well evidenced, efficient and challenging are the company's forecasts of wholesale wastewater expenditure, including bioresources costs?

For PR14, following Ofwat's risk based review of business plans, South West Water's wholesale wastewater cost base was assessed as efficient, though the costs we submitted in our business plan were assessed as being 1% above the risk based threshold and at the time of the Final Determination.

Our customer and cost driven culture has realised significant efficiency delivery across the different elements of our water service business, with c. £102.9m of totex outperformance to date. Going forward, we anticipate a further c. £57.5m outperformance by 2020.

These lower costs are built into our base costs. Looking forward, post 2020, any changes from this efficient starting point are supported by strong 'bottom up' evidence and independent consultant reports with relevant specialist expertise. At a summary level, even with increased legislative requirements, extending our area of appointment to Isles of Scilly, and ambitious service targets, overall expenditure increases by less than 6%.

Throughout the development of our plan to 2025 we have looked at how we can improve our own efficiency across all areas of the business. We have examined best practice in our own industry and elsewhere to identify where savings can be made.

Examples of this include market testing and tendering of key contracts and reviewing what has been done in terms of benchmarking within the sector and outside resulting in a shared service project across Pennon Group realising significant savings in South West Water.

We have identified certain costs which whether included within the plan, or currently excluded as being uncertain, could vary depending on a number of factors – such as legislation or timing of implementation. Therefore consistent with PR14 we are identifying these to be included with the WaterShare mechanism for 2020-25.

Detailed comparative analysis and benchmarking, supported by independent cost consultant reports and econometric cost modelling, validated our assertion that 'top down' the costs included in the plan are challenging/efficient. Indeed for wastewater services, top down analysis over the historic period (2011/12 – 2017/18) shows that we have maintained our efficiency position close to the upper quartile (Only 1.6 percentage points off the UQ), while on water network plus and bioresources we are 3.1 percentage points 14.6 percentage points behind the UQ, respectively. However, given the uncertainty around top down modelling, and the detail of our bottom up analysis, we considered that this slight gap to the UQ on wastewater services did not contradict our view that our wastewater service plan was efficient.

Although our performance on average is below the UQ, across the full model set considered there were some models in which we ranked at the UQ, pushing the average benchmark across all models up. Our effect on the average UQ benchmark across all our models assessed over the historic data period (2011/12 – 2017/18) was 0.2 percentage points when modelling aggregate wastewater and 0.5 for the network plus control.

These costs were used to derive the bills used in the initial phase of customer acceptability testing. Despite strong customer acceptance of our plans, affordability of our bills was still an area of concern for some customers. As a result Board challenged management with a further 0.5% stretch efficiency target across all expenditure to reduce our costs even further. Our plan was then retested with customers with a lower bill resulting in the best ever acceptance from South West and Bournemouth customers at 88% and 92% respectively.

### **CE 3** How well evidenced, efficient and challenging are the company's forecasts of retail expenditure, including bad debt costs?

For PR14, following Ofwat's risk based review of business plans, South West Water's retail cost base were assessed as being in line with the (average cost to serve) benchmark.

Our customer and cost driven culture has realised significant efficiency delivery across the different elements of our water service business, with c. £6.2m of totex outperformance to date. Going forward, we anticipate a further c. £8.4m outperformance by 2020.

We have also delivered on our commitments and are on track to deliver the targeted cumulative savings identified over 2015-20 from our merger with Bournemouth Water.

Within the household retail costs we have received an independent third party assessment of the potential real price effects which impact such a business – including those specific for South West Water's customer approach. As a result we have included a proportion of these costs over the 2020-25 period, however, we are targeting a further c.23% reduction in the doubtful debt charge (from 2017/18) which more than offsets the impact of these price effects.

Between 2015-2020, we have delivered significant improvements to our doubtful debt charge through the replacement of our debt recovery system, improved case resolution of high value debtors, increased enforcement activity, increased staff capacity, capability and retention, reduced previous occupier debt using third parties to trace customers.

These lower costs and outperformance are built into our base costs and are supported by strong 'bottom up' evidence and independent consultant reports with relevant specialist expertise.



## Summary – Initial assessment of plan questions continued

Throughout the development of our plan to 2025 we have looked at how we can improve our own efficiency across all areas of the retail business. We have examined best practice in our own industry and elsewhere to identify where savings can be made (e.g. debt management processes in other industries).

On debt management, going forwards we are further improving the effectiveness of our approach to managing and reducing bad debt. We are working to be recognised against the Money Advice Service Supportive Creditor Standard, Enhancing our systems so that we can use data to better identify customers that require help, Digitally engaging with our customers through the use of videos, infographics and animations to create a 'personal' service feel, Improving signposting to support groups and real time feedback on on-line applications for our affordability tariffs to encourage positive payment behaviour, sharing information between water and sewerage undertakers and public authorities.

We have identified certain costs which whether included within the plan, or currently excluded as being uncertain, could vary depending on a number of factors – such as legislation or timing of implementation. Therefore consistent with PR14 we are identifying these to be included with the WaterShare mechanism for 2020-25.

Detailed comparative analysis and benchmarking, supported by independent cost consultant reports and econometric cost modelling, validated our assertion that 'top down' the costs included in the plan are efficient. Given the fast pace of change in the retail control and that spend is predominantly operating costs, we estimated our cost modelling over the last two years of data.

In order to assess our historic level of spend, we have used evidence from the last year of data available (2017/18) to inform our current efficient position across the industry. On this basis we rank 6.7 percentage points behind the UQ in other retail costs and 0.8 percentage points better than the UQ in bad debt. In aggregate models of total cost we rank 5.0 percentage points off the UQ.

On the basis of these models, we increase the level of the upper quartile challenge on bad debt for other companies by 19.3 percentage points.

These costs were used to derive the bills used in the initial phase of customer acceptability testing. Despite strong customer acceptance of our plans, affordability of our bills was still an area of concern for some customers. As a result Board challenged management with a further 0.5% stretch efficiency target across all expenditure to reduce our costs even further. Our plan was then retested with customers with a lower bill resulting in the best ever acceptance from South West and Bournemouth customers at 88% and 92% respectively.

### **CE 4 To what extent are cost adjustment claims used only where prudent and appropriate, and where they are used, are cost adjustments well evidenced, efficient and challenging?**

We have submitted three atypical expenditure items which are additive to our typical baseline expenditure as cost adjustment claims for PR19. In addition we provide estimates and analysis for five regional operating cost adjustment claims which we do not intend to claim for, as we expect that these factors would be controlled for within Ofwat's modelling at PR19. We nonetheless have provided these in the event that the econometric models used by Ofwat do not fully take into account all of South West's operating characteristics.

Our atypical expenditure claims: the Isles of Scilly, Knapp Mill treatment works, and Alderney treatment works, have all been submitted as cost adjustment claims as they are additional to what could be considered a typical or baseline level of expenditure for South West Water. For the Isles of Scilly claim, our claim corresponds to a large upfront investment required to bring the standards of service on the island at a level comparable to those mandated by legislation for customers in England and Wales.

For the separate Knapp Mill treatment works and Alderney treatment works, these are key strategic water treatment works for the Bournemouth area. Both works are well in excess of the expected asset life (60 years) and employ outdated slow sand filter treatment technology as their primary purification processes.

All three atypical expenditure items are driven by historic levels of underinvestment by previous operators (with these areas becoming part of South West Water's area of appointment these significant investments have now become viable). As such these claims cannot be said to fall within management control, as South West was not responsible for the Isles of Scilly or Bournemouth Water areas prior to 2015.

Our quantification of the costs for each of these areas has been developed using our internal bottom-up cost models. Our Isles of Scilly claim has been informed through the appointment of external consultants and assessment of technologies used in remote locations such as the Western Isles of Scotland and Guernsey. The technical elements and costs of our plan have been assured by Strategic Management Consultants Ltd (SMC).

Our quantification of costs for replacing the Knapp Mill and Alderney treatment works have been developed using out internal bottom up cost models and benchmarking. Our recent experience of design and construction of the Mayflower water treatment works has placed us in a strong position to understand the costs for this kind of project.

## Summary – Initial assessment of plan questions continued

Our (not submitted) claims for regional operating characteristics are based on top-down econometric benchmarking models. To the extent that these take into account key cost drivers for the industry, which has been our key criteria for model selection, our cost adjustment claims in these areas can be considered incremental, “in-the-round” adjustments. Our expectation is that Ofwat would similarly take these factors into account and so these claims have been developed for demonstration only.

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### High quality, ambitious and innovative plan

In addition to the summary responses to each of the initial assessment of plan questions noted here, we have provided further information evidencing the high quality, ambitious and innovative nature of our plan in the following section.

Further evidence can be located in a number of publications:

- South West Water PR19 suite of documents
- Other sources including South West Water documents and third party reports.



## Summary – High quality, ambitious and innovative plan

High quality plan features	Evidence & activities	Evidence location within plan
<p><b>The company will submit strong evidence of efficient and challenging cost forecasts in each price control, with evidence of comparative efficiency within the sector and, where appropriate, against other sectors</b></p>	<p>Board led integrated governance and assurance framework</p> <p>Track record of delivering promises and stretching commitments made to customers</p> <p>Oversight and challenge by independent WaterShare Panel embedded into business and applied to Bournemouth area and extended until 2025</p> <p>WaterShare+ governance framework</p> <p>New customer ownership plan giving customer even power to hold us to account on delivery</p> <p>Embedded ODI governance framework reviewing and scrutinising performance with detailed analysis and intervention in areas of performance falling below expectations</p> <p>Post event surveys undertaken routinely with customers to understand any area of performance falling below expectations</p> <p>Customer contact and complaint resolution improvements driven by bespoke ODI</p> <p>Storm Emma post incident customer surveys</p> <p>Board leadership and involvement in incidents</p> <p>Incident management policies and procedures</p> <p>Customer service driven culture embedded into business and alignment of objectives throughout the organisation</p> <p>Strong incentives attached to delivering performance</p> <p>Forecast performance independently challenged by Water Future Customer Panel (WFCP) and external assurance providers</p> <p>Customer focus groups</p> <p>Resilience service improvement project</p>	<ul style="list-style-type: none"> <li>● <b>Business plan 2020-25</b></li> <li>● <b>Securing cost efficiency</b></li> <li>● <b>Engaging customers</b></li> <li>● <b>Securing trust, confidence and assurance</b></li> <li>● <b>WaterFuture Customer Panel report</b></li> <li>○ <b>Wholesale water network plus revenue control</b></li> <li>○ <b>Wholesale water resources revenue control</b></li> <li>○ <b>Wholesale wastewater plus revenue control</b></li> <li>○ <b>Wholesale bioresources revenue control</b></li> <li>○ <b>Totex ODI innovation submission</b></li> <li>○ <b>Bournemouth Water rationale document</b></li> <li>○ <b>Initial Submission to CMA in respect of Bournemouth Water merger</b></li> <li>○ <b>Detailed questionnaire to CMA in respect of Bournemouth Water merger</b></li> <li>○ <b>Commercial evaluation of the PR19 investment programme</b></li> <li>○ <b>Ofwat financial monitoring framework</b></li> <li>○ <b>Econometric cost model consultation response</b></li> </ul>

## Summary – High quality, ambitious and innovative plan continued

High quality plan features	Evidence & activities	Evidence location within plan
<p><b>The company will have an effective approach to managing and reducing bad debt</b></p>	<p>We have a well established approach to the management of bad debt which has evolved over time resulting in significant reductions in the overall level of bad debt. The integration with Bournemouth Water has allowed for the sharing of best practice and lessons learned from each company's operation to improve the effectiveness of our approach to managing and reducing bad debt.</p> <p>Industry leading Bournemouth Water processes for cash collections were integrated with existing processes to allow for more effective cash collections in South West Water. Well established, industry leading affordability and vulnerability assistance measures were made available to Bournemouth Water customers and a social tariff implemented for the first time. These have effectively contributed to improve cash collections and reduced bad debt levels.</p> <p>Detailed comparative analysis undertaken internally and independently validated by Oxera evidences the improvements in bad debt levels relative to industry peers.</p>	<ul style="list-style-type: none"> <li>● <b>Business plan 2020-25</b></li> <li>● <b>Engaging customers</b></li> <li>● <b>Securing trust, confidence and assurance</b></li> <li>● <b>Addressing affordability and vulnerability</b></li> <li>● <b>Securing cost efficiency</b></li> <li>○ <b>WaterFuture Customer Panel report</b></li> <li>○ <b>Totex ODI innovation submission</b></li> <li>○ <b>Retail revenue control element plan</b></li> <li>○ <b>Bournemouth Water rationale document</b></li> <li>○ <b>Initial Submission to CMA in respect of Bournemouth Water merger</b></li> <li>○ <b>Detailed questionnaire to CMA in respect of Bournemouth Water merger</b></li> </ul>
<p><b>The company will submit strong evidence to support any cost adjustment claim. Where possible, the company will avoid raising cost adjustment claims, including by taking account of offsetting favourable circumstances</b></p>	<p>Where possible we have voided raising cost adjustment claims. Following an extensive, quality assured process we are only making cost adjustment claims for two large atypical water treatment works and the proposed investment in the Isles of Scilly.</p> <p>We submitted a cost adjustment claim in May 2018 and have updated this to reflect the final business plan submission. This has been supported by detailed analysis and review by independent consultants, Oxera.</p> <p>The claim represents an objective assessment of favourable and unfavourable circumstances experienced in our business. We believe that there are a number of cost drivers that affect our business in particular, but as we set out in our cost adjustment claim in May 2018 and again here, we believe Ofwat's cost models will take account of these cost drivers.</p> <p>This was further evidenced in our response to the consultation on cost models in May 2018.</p>	<ul style="list-style-type: none"> <li>● <b>Engaging customers</b></li> <li>● <b>Securing cost efficiency</b></li> <li>● <b>Securing trust, confidence and assurance</b></li> <li>● <b>WaterFuture Customer Panel report</b></li> <li>○ <b>Cost adjustment claim early submission May 2018</b></li> <li>○ <b>Cost adjustment claim submission updated for September 2018</b></li> </ul>

## Summary – High quality, ambitious and innovative plan continued

High quality plan features	Evidence & activities	Evidence location within plan
<p><b>The company will effectively use markets and market testing to reveal information and improve efficiency. The company business plan presents cost forecasts which shift the efficiency frontier of the sector, with evidence of comparative efficiency against other sectors</b></p>	<p>We have used markets and market testing in each part of our value chain.</p> <p><b>Market testing</b> We have a strong track record in procurement and market testing to deliver efficiencies. We market test any activity in our day to day delivery above £10k. These savings are already embedded in our cost models forecasts and feed into all aspects of our plan. Details of the procurement process are given in the Bid Assessment Framework.</p> <p>To ensure future cost savings are passed on to customers, we have engaged the supply chain to develop our programme. We engaged with over 800 different cost managers, strategic consultants and civil contractors for the development of future delivery contracts.</p> <p>We have packaged capital projects into larger, longer term programmes of work and we have been able to use our internal and partner project resources more efficiently, carrying expertise and lessons learned from one project to the next.</p> <p>We have targeted off site build techniques to deliver the construction schemes with minimal impact on sites and the surrounding areas and drive greater efficiency.</p> <p>This early engagement and approach has allowed us to included material totex savings in our plan with 5% capital efficiency and a 1% p.a. general operating cost saving.</p> <p><b>Water resources</b> Although we have no planned water resource options we have developed an online water trading website to allow third parties to bid in future options.</p> <p>We have also published all the demand management options and proposed leakage reductions to the market. With our bid assessment framework this will allow third parties and the competitive market the ability to deliver these services in 2020-25 rather than the incumbent should they economic to do so.</p> <p>Our engagement with the West Country Water Resources Group is forecast to save £100k (or c.20%) of our forecast expenditure on water resources studies through shared working on common study areas e.g. impact of climate on our region.</p> <p>The proposed water transfer from Bournemouth Water to Southern Water is expected to save £100m compared to their equivalent desalination plant. Whilst these savings do not translate to direct benefits to our customers they do reduce the overall national cost of water resource provision.</p> <p><b>Water efficiency</b> We used Waterwise and Wood PLC to develop our water efficiency programme.</p> <p>This used market data to develop the future costs of the programme to ensure they reflect the lowest observed rates for delivery. Together with our additional efficiencies applied to the plan this will set a new future benchmark in water efficiency cost of delivery.</p>	<ul style="list-style-type: none"> <li>● <b>Targeted controls, markets and innovation</b></li> <li>○ <b>Bid assessment framework</b></li> <li>○ <b>Trading and procurement code</b></li> <li>○ <b>KPMG Direct Procurement for Customers report</b></li> </ul>

## Summary – High quality, ambitious and innovative plan continued

High quality plan features	Included in plan	Reference
<p><b>The company will effectively use markets and market testing to reveal information and improve efficiency. The company business plan presents cost forecasts which shift the efficiency frontier of the sector, with evidence of comparative efficiency against other sectors</b> continued</p>	<p><b>Catchment management</b> We will use the Wessex EnTrade platform in the River Axe catchment to implement market based solutions to reduce the level of phosphorous in the catchment.</p> <p>We will use a peatland restoration Payments for Ecosystem Service (PES) reward scheme on Dartmoor Commons in partnership with the Duchy of Cornwall to incentivise efficient land use change to slow water in the catchment.</p> <p>We have worked with the UoE SWEEP Programme (funded by NERC) in an assessment of market mechanism incentives and farmer behaviour approaches. This is built into our forward programme.</p> <p>We are using PROWATER (Protecting and Restoring raw Water sources through actions at the landscape scale) market approach to unite food buyers and industry influencers in our Roadford and Tamar catchment management areas to deliver market driven solutions.</p> <p>We propose to use the market to deliver our catchment management programme. This creates a competitive market for catchment delivery compared to traditional incumbent delivery.</p> <p><b>Bioresources</b> Our plan is built upon undertaking a formal large-scale approach to the market to seek regional, site specific and /or service level solutions.</p> <p>We have not included any enhancement activity in our bioresources plan. In doing so this sets a very challenging frontier position for the rest of the sector to justify why enhancement costs would be needed when market provision could supply this.</p> <p>We have developed an online market inquiry website for bioresources market opportunities. This has already generated two contacts, albeit small, which we are investigating.</p> <p>Our bioresources efficiency model allows us to market test the performance of different sites within our region.</p> <p>Through our work with Wessex Water on bioresources trades this has allowed us to benchmark cost performance for the broader market.</p> <p><b>Comparative performance and Frontier Shift</b> Our merger with Bournemouth has benefited the overall water sector regime through the creation of a new benchmark.</p> <p>Based on our calculations, the merger has given rise to a total net benefit of c.£70m.</p> <p>The corresponding improvements in the precision of the econometric models used in the Price Control will benefit all customers.</p> <p>The collective impact of our work means we set a material frontier shift in the cost base of the sector.</p> <p>Our strategic approach to offering the bioresources activity to the market in 2020-25 and the use of the market to deliver catchment management solutions and our leakage and demand management activity set a significant challenge to the rest of the sector on in-sourced vs competitive market provision of services.</p>	<ul style="list-style-type: none"> <li>● <b>Targeted controls, markets and innovation</b></li> <li>○ <b>Bid assessment framework</b></li> <li>○ <b>Trading and procurement code</b></li> <li>○ <b>KPMG Direct Procurement for Customers report</b></li> </ul>

# Appendices

Customer research and engagement	50
WaterFuture Customer Panel engagement and assurance	51
Board assurance	53
Professional credentials of third parties	54

# Customer research and engagement

## Customer engagement on cost efficiency

Throughout our PR19 engagement, customers have been very clear that what matters most to them is that we keep bills as low as possible whilst providing our first-rate service. We take our obligations to provide an efficient, value for money and affordable service to our customers seriously.

We recognise that the current economic climate has placed additional pressures on many households in our region, in which affordability is already an issue. Our customers have historically faced higher than average bills due to our environmental obligations. This is exacerbated by lower than average regional incomes.

We have carried out a comprehensive programme of innovative and robust customer and stakeholder engagement which has enabled us to develop an ambitious well-evidenced plan that ensures it delivers for and protects customers by reflecting their priorities, how they value services and how they balance and trade-off risk, services and costs. Specific activities included:

- WTP Stated Preference studies (Discreet Choice Experiment and Best Worst Scaling)
- Water resources, water and wastewater second stage studies
- Pollution and supply interruption specific surveys
- Isles of Scilly WTP.

These studies, alongside external sources meant over 900 data points have been used in our cost benefit analysis. We are confident that they reflect customers' values to support and underpin the assessment of the level of investment and performance commitment forming each outcome. This ensures that customers' values and trade-offs are reflected in efficient and stretching performance commitment levels.



For more information, see [Engaging Customers](#)

We have engaged with our customers on affordability and vulnerability and their feedback has shaped our offering from 2020+, alongside reviewing the effectiveness of the schemes to ensure they continue to be fit for purpose and provide positive outcomes for our customers. Activities included:

- Post event surveys
- Cold snap surveys
- Priority service survey
- Customers support for long term affordable investment in services
- Building trust, supporting customers and sharing success
- Affordability base line survey.



For more information, see [Addressing Affordability & Vulnerability](#)

Our acceptability research has specifically asked customers about the acceptability and the affordability of our plans. In the quantitative testing phase 92.4% of customers in our Bournemouth Water region found the plans to be acceptable. This confirms our plan is the right balance of investment and bills.

When we tested our plans in the South West Water region, the quantitative testing showed high levels of acceptability for our plans and for the proposals in the plan – 86.7% of our customers found the plan acceptable. But there was strong feedback that we could do more for less – we were challenged to deliver the proposals for less cost.

Customers told us that inflation concerns them. More so than in PR14, 35% of customers tell us their wages and incomes are rising less than inflation each year – and they worry about water bills that rise faster than their incomes. Our customers tell us it's important to ensure the efficiencies we pass back help relieve inflationary pressures. The impact of inflation had a markedly negative view on customer acceptability of our plans: the acceptability of this plan reduced to 63.5% when inflation was added to bills.

Our customers were clear – we need to deliver more for less. We challenged ourselves to reduce bills further – and presented these revised bills to customers in our second round of quantitative acceptability. This has shown high levels of support for our plans, as well as the initiatives that make up the plan. When this was retested with customers, 88% of our customers said the plan was acceptable.

Our plans have gone a long way to mitigate inflationary impacts, meaning that - including inflation – customers find our plans to be acceptable to 79% of customers in the South West Water region and 73% of our Bournemouth Water region.

## WaterFuture Customer Panel engagement and assurance

The WaterFuture Customer Panel (WFCP) is made up of representatives from customer, business, stakeholder and regulatory organisations and its role is to provide the independent challenge to companies and independent assurance to Ofwat on:

- The quality of a company's customer engagement; and
- The extent to which the results of this engagement are driving decision making and are reflected in the company's plan.

The Panel also set up two sub-groups to work more closely with the company on research, engagement and vulnerability activities; the Research, Engagement and Vulnerability (REaV) sub group, and on legislative and statutory obligations; the Legislative, Resilience and Environmental Investment (LREI sub group) with both chaired by a member of the WaterFuture Customer Panel.

The WFCP and the LREI sub group were engaged from the early stages of the development of our investment programme, and continued to review and challenge this as part of a standing agenda item at each meeting. Early visibility of our programme presented a range of investment scenarios ranging from £0.850bn through to £1.400bn, with each scenario delivering 100% compliance with statutory and legislative quality obligations as a minimum.

The WFCP and the LREI were conscious from the outset of the impact that a significantly increased investment programme could have on customer bills, an especially pertinent issue in light of the uncertainty around the £50 government payment, and the fact that customers' overarching priority is cost and affordability of bills. We shared a range of indicative customer bill impacts with the WFCP in January 2018, which detailed how each scenario would aim to deliver upper quartile service performance, and the associated breakdown of potential efficiencies, ODIs and investment in comparison to current bill levels.

Each investment scenario was presented with the range of associated benefits and risks, and a summary of the key investment areas. The investment updates shared at the WFCP and LREI meetings changed frequently as a result of our internal optimisation processes to refine the programme in line with customer priorities gathered through ongoing engagement and playback sessions. The WFCP challenged how customer contacts were taken into account in developing the overall programme and we were able to explain that customer contacts were used in analysing the key areas to invest in geographically, enabling us to focus on investing in the assets that are impacting the service that customers receive.

We shared with the WFCP and the LREI a breakdown of the investment areas that made up the whole programme, along with information about what each individual area of

investment would deliver. The LREI felt that the way this information was presented was useful and helped them in applying scrutiny to investment areas. The WFCP challenged where funding for specific initiatives, such as pollutions reductions were detailed, and we provided clarity on the various areas of the total investment programme that these improvements would be funded from which satisfied the Panel.

Through their discussions with the SWW NEDs and at the wider WFCP meetings the Panel were assured that our RoRE performance continues to be sector leading and is outperforming our PR14 business plan, as detailed in our annual performance report which the WFCP reviewed prior to publication. We also shared that one of the cornerstones of our plan was to provide the most efficient service in the industry through our every day focus on delivering efficiencies and keeping bills as low as possible for our customers. In delivering all of the promised efficiencies through our merger with Bournemouth Water we have contributed to creating a better price comparator for the sector, helping to keep customer bills low.

We discussed cost adjustment claims with the Panel and the LREI early in 2018, and provided updates on this analysis in the run up to the early submission of cost adjustment plans in May 2018. The Panel were supportive of the two claims submitted, based on analysis providing that atypical nature of these investments. For the Isles of Scilly, the Panel challenged the company on the outputs of the willingness to pay research, which were also shared with the LREI and the REaV sub groups, with regards to the impact the outputs would have on the proposed improvements in this area. We confirmed that we had redesigned our investment profile in this area in line with customer willingness to pay, which meant that the investments would be made over a longer period than 2020-2025, which the key stakeholders on the Isles of Scilly and the Panel were satisfied with.

The Panel challenged us on how customer feedback from acceptability testing would be incorporated into our plans. We shared that our acceptability testing would be phased to enable for additional flexibility based on feedback from customers. For Bournemouth Water, 92% of customers found our plans to be acceptable, which meant that we didn't need to carry out further testing in this area, however, in the South West region whilst customers were supportive of our plans they remained concerned about affordability challenged the company to further protect from the impact of inflation. We responded to this challenge by reducing our planned investment programme to provide a lower customer bill, while retaining the stretching targets and commitments in our initial plan, through applying an additional level of efficiency internally, which the Panel were supportive of. In re-testing acceptability with customers in the South West using this lower bill, 88% of customers found our bill to be acceptable.

## WaterFuture Customer Panel engagement and assurance continued

The Panel were satisfied with the robustness of our engagement with customers in relation to investments and costs, and believe that our plan is both robust and deliverable, providing a plan that is acceptable to the majority of customers.



For more information, see  
**WaterFuture Customer Panel Report**

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## Board assurance

The Board customer driven culture focused on cost and service efficiency is central to the development of our business plan.

Following the assessment of our cost base as efficient in PR14 the Board has continued its drive on efficiency to keep bills as low as possible for customers. The Board led the merger and subsequent integration of Bournemouth Water realising significant synergies across each element of the business delivering significant benefits for our customers.

Detailed analysis from independent econometricians supports the Board assertion that the benefits derived from the merger alone creates a better comparator and reinforces our position at the forefront of the industry efficiency.

The cost focus embedded into our business has delivered significant totex efficiencies resulting in c. £170m of totex outperformance by the end of 2017/18. This focus will continue and all costs proposed for inclusion in the plan have been rigorously challenged by the Board. A stretch target of 3% per annum on operating costs and 5% on capital costs have been included in our plan to further push the cost efficiency benchmark for the industry.

Independent cost consultants have also been commissioned by the Board to provide assurance over costs included for capital and operating solutions considered for inclusion in the plan. Material and or / large investment and expenditure have been externally assured. These costs have then been included in the detailed cost benefit appraisal to derive the optimum package of expenditure to deliver customer preferences for services in the most efficient manner. This has also been tested with our WaterFuture Customer Panel, Drinking Water Inspectorate and the Environment Agency.

Our largest single investment, the new first of its kind ceramic membrane water treatment works in Plymouth is nearing successful completion. Regular updates have been provided to Board throughout the construction and commissioning of this investment. The successful delivery provides the Board with the confidence to propose further roll out this technology to two further new water treatment works in our PR19 business plan.

This direct involvement in this area of the plan has enabled the Board to be confident that **the expenditure forecasts included in our plan are robust and efficient. In addition the Board are confident that:**

- **Large investment proposals are robust and deliverable**
- **A proper assessment of options has taken place**
- **The proposed option is the best one for customers.**

This is included in our signed Board assurance statement.

For more information, see



### Board Assurance Statement



### Securing Trust, Confidence & Assurance

## Professional credentials of third parties

### ICS Consulting

ICS Consulting was established in 2000 and specialises in providing consultancy and support services to infrastructure businesses and regulators in the UK, Europe and Middle East. Their expertise covers:

- Regulatory economics, covering policy analysis and development
- Periodic review customer research
- Economics analysis, including assessing monetary benefits of investment and cost-benefit analysis;
- Investment appraisal and optimisation, covering the design and implementation of bespoke asset management systems.

ICS is highly experienced in all aspects of the regulatory and business planning processes in the water industry and supports a number of key periodic review activities, namely:

- Customer research (priorities, willingness to pay, acceptability testing)
- Regulatory analyses (outcomes and incentives design, tariff formulation)
- Investment optimisation and business plan development (cost benefit analyses, scenario planning, business case development)
- Risk assessment (asset modelling).

### Oxera

Oxera is a leading independent economics consultancy. They advise companies, policymakers, regulators and lawyers on any economic issue connected with competition, finance or regulation. They have been doing this for more than three decades, gathering deep and wide-ranging knowledge as they expand into new sectors. They have a reputation for credibility and integrity among those they advise, and among key decision-makers, such as policymakers, regulators and courts. Today they have offices in Oxford, Berlin, Brussels, London and Rome and are able to advise international clients in a highly flexible way, including providing advice in several other languages.

### PA Consulting

PA Consulting is an innovation and transformation consultancy and we believe in the power of ingenuity to build a positive human future in a technology-driven world. As strategies, technologies and innovation collide, we turn complexity into opportunity.

Their diverse teams of experts combine innovative thinking and breakthrough technologies to progress further, faster.

They have over 2,600 specialists in consumer, defence and security, energy and utilities, financial services, government, healthcare, life sciences, manufacturing, and transport, travel and logistics. And they operate globally from offices across the Americas, Europe, the Nordics and the Gulf.

PA Consulting have used our expertise to support South West Water in developing their Resilient Service Improvement (RSI) programme – through design, development and in supporting the delivery of programme.

### Cornwall Insight

Established in 2005, by founder Nigel Cornwall, the company has experienced exceptional growth and is based in Norwich. Cornwall Insight supports over 250 clients and is regarded as the market leader in their area; their services are valued by a wide range of businesses, and their original research has been cited in the national press and is regularly referenced by front bench politicians. Cornwall Insight provides services in the form of:

- Market research and insight covering:
  - Industry cost forecasts
  - Power generation and demand
  - Supply markets
  - Policy and regulation
- Consultancy
- Publications.

Additional benefits of utilising the expertise on offer from Cornwall Insight include:

- Independence – 100 % independent and privately owned
- Experience – formed in 1991 with over 20 years in the energy markets
- Innovative direct exchange access and short term market expertise
- An established and excellent track record in contract timing
- 24/7 Portfolio Management support
- Web based reporting for multi-site operations.

### Aqua

Aqua Consultants is an engineering, commercial management and technology business that provide a combination of consultancy services and innovative software solutions. Aqua Consultants are recognised water industry experts having worked with the vast majority of the UK Water Companies and have also on occasion supported both Ofwat and the Competition and Markets Authority. Aqua Consultants also support the regulated gas and electric industry, working with a number of major distribution companies and are retained on a framework with Ofgem to provide expert technical advice.

For South West Water, Aqua Consultants provides services that support the whole asset lifecycle from inception through to operations. Specific to PR19, Aqua Consultants were engaged to capture cost data, to derive cost models from this data and to apply these cost models to projects within the business plan.

Aqua Consultants are regulated by the Royal Institute of Chartered Surveyors (RICS) and the board of directors includes a Member of the Institute of Directors. All work is delivered in accordance with ISO 9001, ISO14001 and OHSAS18001 accreditations for Quality, Environment and Health and Safety respectively and the company is also independently audited by Achilles. In addition, Aqua Consultants is a holder of the Investor in People accreditation.

### ChandlerKBS

ChandlerKBS is an RICS regulated, independent firm of Cost and Project Management consultants which provides construction consultancy across a wide range of sectors throughout the UK and mainland Europe. ChandlerKBS has provided cost management and statutory and regulatory services to the majority of the water companies since privatisation and has worked with the Contract and Commercial Team in South West Water's Strategic Client body for over 20 years. ChandlerKBS has an industry leading specialist team that provides expert Capital Allowance advice to Pennon and is at the forefront of industry negotiations between HMRC and the WaterUK tax group.

ChandlerKBS worked with the software house, CSSP, to develop the Engineering Estimating System (EES) cost database software and has implemented its introduction with five water companies, including South West Water. South West Water use EES to derive their cost models for pricing the business plan.

All work is delivered in accordance with ISO 9001, ISO14001 and OHSAS18001 accreditations for Quality, Environment and Health and Safety respectively. ChandlerKBS is a 20 year holder of the Investor in People accreditation.

### KPMG

KPMG is a leading provider of professional services, including audit and advisory solutions integrating innovative approaches and deep expertise to deliver real results. We have extensive water industry experience.

We have worked with South West Water over a number of years, acting as financial advisor at PR14 as well as reviewing retail margins, default tariffs and providing retail modelling advice.

We have provided expertise in a range of relevant areas including analysis in respect of options for direct procurement and supporting the development of South West Water's approach to trading in the Water Resources market, including reviewing South West Water's market and procurement code. This follows extensive involvement with multiple companies within the industry providing advice ahead of the opening of the non-household retail market.

Our team includes members who have previously been involved in the development of market frameworks in the industry as well as policy for PR19.

### Economic Insight

Economic Insight is an economics consultancy that provides an unrivalled level of client service. Their unique proposition is that they combine the rigour of technical economics with the consultancy skills of leading strategy houses. They use economics with a fresh perspective to support superior decision making.

Their expertise is in helping clients solve critical, real world, strategic problems across the areas of business strategy, regulation, competition law and public policy. Their track record of delivering value-adding results means that they are trusted by major private and public sector organisations to advise at the most senior level. They work across all sectors, from fast moving consumer goods and retail through to regulated utilities. Their breadth of experience allows them to offer cross-sector insights that help their clients achieve their objectives.

