OUR RESPONSE TO OFWAT'S INITIAL ASSESSMENT OF PLANS
APRIL 2019
Executive summary

This document sets out the updates we have made to our Business Plan for 2020-2025 following:

- Ofwat’s initial assessment of plans which it published in January 2019
- our continued engagement with our customers
- engagement with the Wessex Water Partnership (who act as our regulatory Customer Challenge Group)
- updated information from environmental regulators about the required outcomes.

We understand the need to continue to show great value in the round as well as excellent services to our customers. Our board remains committed to:

- putting customers and communities at the heart of what we do
- embracing change and innovation through our open systems model
- environmental leadership
- investing in our people and skills
- sharing our success with the wider community.

Updates to our plan mean that in 2020 average bills to customers will now reduce by 10% in real terms. By 2025 bills will remain 6% less than today in real terms despite having completed our largest ever set of environmental and service improvements. As a result our customers and the environment will continue to get the best service levels of any water company in the UK.

Since September 2018 we have reduced the forecast expenditure in our plan by £43m. The reductions are to take account of new information about our obligations including, at Ofwat’s suggestion, where the performance target level that the industry is required to meet is less ambitious than we had originally proposed.

We’ve also lowered our assumed equity return to a level which allows us to maintain sufficient credit quality and which matches Ofwat’s suggested cost of capital of 2.4%.

We’ve added new Performance Commitments that cover value for money and contacts about the taste/odour of drinking water.

We’ve provided further evidence and clarification on:

- how our package of PCs protects customers and give appropriate incentives to deliver better outcomes and are in line with the board’s wider vision for the company and the sector
- how Ofwat can be confident that our totex proposals are efficient
- how our plan delivers financial resilience.

The board has considered and approved any changes to our plan and has approved the submission of our response. We have also provided a new assurance statement from the board.
Ofwat’s Initial Assessment of Plans included 90 actions that they advised or required us to make, and they also published their assessment of the efficient level of costs. We set out in this document and the supporting appendices how we have responded to each of these requests and our initial response to the way Ofwat has assessed the efficient level of costs.

We do not agree with every judgement that Ofwat has made; in particular we have three key concerns that we would like to be addressed by Ofwat before it calculates a price determination from our plan proposals. These are as follows:

1 – Setting efficient cost allowances

We recognise that:

- the approach Ofwat has taken to assessing cost allowances is in many areas a marked improvement on PR14
- more than ever we need to show how the industry is delivering better value for money for customers.

In this context Ofwat’s proposed 1.5% annual frontier-shift productivity assumption is understandable and could be acceptable as part of an “in the round” assessment of the financeability of our plan and the other parameters. This is despite this being well in excess of the levels of productivity improvement seen in the wider UK economy in recent years and of the forecasts made by expert bodies such as the OBR.

We are concerned that some of Ofwat’s other policy decisions mean that the true level of efficiency challenge in its IAP, even for frontier performing companies such as ourselves is well in excess of the 1.5% headline productivity assumption. In particular:

- the assumption that there should be no allowance made for input cost increases above CPIH
- we disagree that all the opex costs for delivering new obligations are included in the base cost allowance
- while we accept there may be evidence that in some areas the base cost allowances include sufficient allowance for historical upper quartile levels of performance commitments there is no evidence that they are sufficient to meet future upper quartile levels of performance commitment levels up to 2025
- the relatively coarse approach to modelling enhancement costs, combined with a policy of funding at the lower of the modelled cost and company’s business plan cost. seems likely to lead to allowances that are systematically too low (as under-estimation of efficient costs in some models is not cancelled out by over-estimation from other models).

For Wessex we think that these amount to a further cost challenge of over £200m over the five-year period, equivalent to an annual additional frontier shift target of more than 3% each year, therefore more than 4.5% in total. This is not in our view a credible level and we think is unlikely to be Ofwat’s policy intention.
Some aspects of Ofwat’s approach when considering enhancement expenditure also recreate incentives for companies to favour capex-based solutions to delivering outcomes which the totex methodology was designed to remove. The approach therefore does not achieve the aim of rewarding efficiency and innovation. We recognise however that the methodology is currently less developed in its approach to enhancements and there is opportunity for improvements.

In this response therefore we provide some practical approaches by which some of these issues can be addressed in time for determinations.

We also provide information where we think that simple data errors or misunderstandings about the statutory requirements can bridge the gap between our own view of costs and Ofwat’s.

Where we provide additional information on the additional cost allowances required compared to Ofwat’s IAP cost allowance our board has explicitly assured that the investments to which these relate are robust, efficient and deliverable.

**2 - The balance and size of incentives on the ODI package for a high performing company**

Our board supports the need for strong positive incentives in the regulatory framework. We have been pleased therefore that Ofwat has often referenced the availability of incentive payments under ODIs as part of its continued commitment to incentive-based regulation. Ofwat’s own consultation documents back as far as November 2016 have evidenced that it is in the interests of consumers that positive ODI incentives are meaningful and that a symmetric approach is taken.

We agree with Ofwat when it said that

> "a strong additional benefit of the reward and penalty approach is that it is likely to deliver more innovation and a frontier shift in service quality for customers. By a frontier shift we mean a significant step change (a shift) in the quality of service provided by the best (frontier) companies in the water sector. The symmetric approach to ODIs reveals new information……. we can use to challenge companies to set more stretching commitments in future"  

As a comparatively high performing company our September plan proposed a wide and balanced range of incentives on ODIs by applying positive incentive payments across a wide range of measures, limiting the use of caps and collars and proposing enhanced rewards and penalties for some measures to ensure that the power and balance of incentives is maintained.

We are concerned therefore that Ofwat’s challenges to our plan ODIs, if followed through, will result in a much narrower range of potential incentives around ODIs that are substantially skewed to the downside as shown in the following chart. Note that this is even

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1 Ofwat (November 2016) A consultation on the outcomes framework for PR19 pp.7-8
before accounting for the cost allowance issues considered above which would add a substantial additional downwards skew.

We can see a case for a company that is currently performing relatively poorly to have a downwardly skewed distribution. As a comparatively high performing company across the most comparable measures we concur with Ofwat’s view that it is in customers’ interests for us to have incentives to shift the frontier levels of performance above the already stretching improvements we have proposed in the plan.

We understand Ofwat’s need for additional evidence that customers support positive incentive payments. We have therefore largely kept our plan proposals unchanged and have engaged further with our customers and commissioned further research. This will be made available to Ofwat and we expect the research to be taken into account in our determination, in particular by:

- accepting our proposals for potential outperformance payments on bespoke PCs
- continuing to limit the use of caps and collars
- accepting our proposals for the use of enhanced incentive payments.

And while we understand the context of Ofwat’s request that we undertake to share incentive payments above 3% directly with customers in the form of lower bills we do not think that this is consistent with a balanced package of incentives. It also cuts across our own proposals to reinvest 20% of net incentive payments into community projects and to limit any within period ODI payment to 2% of RORE. Our own proposals better maintain the balance of incentives because the investments will be made in areas that improve the resilience of our local communities (and therefore ourselves) in the long-run.

**Ensuring financeability through consistency in key economic parameters**

We hope that it is self-evident that as a water company we are embedded within the wider macro-economy in which we operate. Our costs are impacted by those of our suppliers and by labour availability and our ability to make step-changes in efficiency is influenced by the new technologies and approaches developed in that wider economy. While water companies, like other companies, can take actions to mitigate cost volatility through long-term contracts with suppliers and pay-deals linked to inflation indices we are not able to insulate ourselves from these fundamental economic trends.
In that context it is important that our business plan (and Ofwat’s price determination) retains a coherent view of the wider economy when assessing the key and interrelated factors of productivity, equity returns and input cost inflation.

Work we have commissioned from Economic Insight suggest that Ofwat’s IAP is not consistent in that it assumes high rates of productivity improvement, low equity returns and zero real price effects will be concurrent. This would not be consistent with either strong future economic growth or weak economic growth as shown in the following table.

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<th>Impact on costs</th>
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<th>High growth world</th>
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<td>Frontier shift</td>
<td>Downward</td>
<td>Low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Equity returns</td>
<td>Upward</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Real price effects</td>
<td>Upward</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
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</tbody>
</table>

*Source: Economic Insight*

At Ofwat’s suggestion we have now revised our plan to use a cost of capital of 2.4%. We have considered our plan as a whole and have taken the view that, if the rest of the plan is accepted in full that this allows us sufficient financial resilience.

Ofwat’s cost assessment policy decisions imply for us a frontier shift well above 1.5% which as we have already explained we do not believe is credible and would call the financeability of the plan as a whole into question. We recommend that Ofwat ensures that the key economic parameters of the determinations are consistent, in particular by considering the impact of its cost assessment policy decisions on the implied frontier shift and by reassessing the likely increases in input prices (RPEs) between 2020 and 2025.

We understand the need to show continued productivity improvements and the uncertainty around any efficiency analysis. We should also remember that the purpose of incentive-based regulation has been to progressively incentivise and reveal efficient costs.

We therefore recommend that having ensured consistency in the key economic parameters Ofwat highlights separately the potential to deliver a greater stretch in the interests of consumers. While these additional stretch targets would not be applied to the determined cost allowances they could be used by investors and stakeholder to challenge companies to deliver greater efficiencies that will benefit customers from 2025.

In their report to us Economic Insight note that if we were to adopt Ofwat’s cost of capital in our plan that one logical and coherent response to this would be to reduce the amount of risk inherent in our ODI package by applying collars and dead bands.
While this is not our proposed or preferred option we have therefore provided alongside our response the caps, collars and dead bands on our ODIs that we would recommend are applied in the event that Ofwat:

- imposes reward caps
- does not substantively accept our case on cost allowances.

We are confident our plan has the support of our customers with positive ratings from 96% of customers in our testing. We are already putting it into action as we prepare to launch the Wessex Water Marketplace, a vehicle through which we will deliver our open systems model, and through the creation of the Wessex Water community foundation which will form part of our wider Wessex Water Community Commitment. Our investment plans for 2019 also include substantial progress on environmental obligations that are required to be delivered in the early part of the next price review period.

We recognise that Ofwat’s IAP is a stepping-stone to the final determination of prices and we have responded constructively. In many areas we have accepted Ofwat’s challenges where the facts have changed or there is new evidence; in particular we have accepted materially reduced expenditure allowances.

Where we do not agree with a judgement that Ofwat has made we have provided evidence and proposed wherever possible potential solutions. As a comparatively high performing and efficient company with a strong history of delivery we hope that this will be given careful consideration.
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Note on financial values contained within this document
For consistency with the financial values stated in our original business plan that was submitted in September 2018 the financial values in this document are stated in average year 2017-18 prices unless otherwise stated.
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In addition to this document and associated appendices, we are also submitting the following items:

- A covering letter.
- Revised data tables and AMP6 reconciliation spreadsheets.
- A financial model using our actual capital structure.
- A financial model restated using Ofwat’s notional capital structure.
- A new board assurance statement.
1. Summary of the changes to our plan

1.1 The changes made

The table below shows the material changes we have made to our plan since September 2018. These changes have been endorsed and approved by the full board.

<table>
<thead>
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<th>Area</th>
<th>Changes made to our plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
<td>We have reviewed our expenditure requirements, in particular focusing on need and efficiency. We have reduced our required expenditure by £43m. In other areas we have provided further evidence of investment need, efficiency and optioneering with explicit board assurance. We have also explained where Ofwat’s assessment approach does not give robust cost allowances or appropriate incentives and wherever possible have suggested workable solutions to this.</td>
</tr>
<tr>
<td>Financeability</td>
<td>We have applied an appointee cost of capital of 2.4%. We are targeting a credit rating of BAA1 and the revised plan (if fully accepted) gives us sufficient financial resilience now and in the long-term.</td>
</tr>
<tr>
<td>Performance Commitment (PC) amendments</td>
<td>We have added new common reputational only measures for value for money and Priority Services Register (PSR) and removed our existing PC for PSR. We have added drinking water taste &amp; odour into our water appearance PC. We have clarified definitions where appropriate.</td>
</tr>
<tr>
<td>Performance Commitment targets</td>
<td>We have accepted and applied amended PC targets where these are common industry targets. We have made small corrective adjustments to targets on some bespoke measures. For other PCs we have provided additional evidence to show how our targets are stretching and for PCC why dead bands are required and in customers’ interests.</td>
</tr>
<tr>
<td>Outcome Delivery Incentives</td>
<td>We have provided further evidence of customer support for our positive incentives on bespoke measures and for the overall range of incentives. We have made non-material changes to some incentive rates due to the updated cost of capital. We have retained our overall approach on ODIs, however we have provided as part of this response the values for caps and collars that we would expect to be applied if we are unsuccessful in convincing Ofwat on our case for positive incentives.</td>
</tr>
</tbody>
</table>

In addition to this document we have completed Ofwat’s action template which gives a summary of how we have responded to each of Ofwat’s actions and where to find further explanation. This is Appendix 1.

In some cases the Ofwat action template references appendices to this document directly, for instance our update to the Bid Assessment Framework (Appendix 11).
1.2 The impact on customers’ bills

In our September 2018 plan we proposed that bills will be 4% lower in 2025 than the current level of £479. Our revised plan now proposes that this will be 6% lower than the current level at £448.

We have reviewed the impact of our plan on bills for the long term. Our plan for 2020 to 2025 does not move cash either forwards or backwards into other time periods for reasons of affordability or financeability, nor does it require a commitment to large scale investments in this period that will require completion in future periods.

Although there is considerable uncertainty about the level of new environmental and service obligations that we may be required to deliver we continue to forecast that bills between 2025 to 2030 will rise, but below the expected rate of increase in earnings in the economy. We consider that this is consistent with ensuring ongoing affordability.

Figure 1-1: Forecast average household bills in 2025-2035 in current (2018-19) prices

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2 Note that £479 represents the estimate made at July 2018 in current (2018-19) prices. We have not updated bill expectations in 2018-19 for the impact of the dry summer which due to higher consumption has increased bills above that which we would expect to see in a normal weather year.
2. Engaging customers

2.1 Summary of changes made

We have commissioned two additional pieces of customer research as a direct consequence of Ofwat’s IAP. We have also engaged extensively with the Wessex Water Partnership (WWP), our Customer Challenge Group (CCG), to help develop the research, to explain our approach to ODIs and our responses to the challenges Ofwat has set-out in its IAP.

The time available for this research has been limited and the need to engage widely to ensure that the research is good quality means that there is necessarily a long lead-time between commissioning and beginning the research.

In both pieces of customer research, we have made sure more vulnerable audiences have been heard. In the ERI research we specifically recruited customers within each focus group with two or more vulnerability indicators relating to themselves or their household. In the ODI research we interviewed a cross section of customers across all social grades and age and have weighted the sample according to the profile of our region.

<table>
<thead>
<tr>
<th>Area of change</th>
<th>Description</th>
<th>Related Ofwat actions</th>
<th>Where to find additional information</th>
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<td>Event Risk Index (ERI)</td>
<td>Qualitative analysis through focus groups to explore the extent of customer support for outperformance payments on ERI</td>
<td>WSX.OC.34, WSX.OC.35, WSX.OC.36</td>
<td>Appendix 21</td>
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<td>Quantitative research designed to test support for outperformance payments on performance commitments and the range</td>
<td>Many actions related to ODI type and ODI rate</td>
<td>Appendix 22</td>
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<tr>
<td>Long term bills</td>
<td>Additional explanation of our approach on long-term bills and reasoning for no further customer research</td>
<td>WSX.AV.A1</td>
<td>n/a</td>
</tr>
</tbody>
</table>

2.2 Further customer engagement on the ERI measure of water quality

In response to Ofwat’s concerns about the sufficiency of evidence to show customers support outperformance payments on our ERI measure we commissioned two pieces of additional research.

- A piece of qualitative in-depth research into customers’ views on the ERI measure.
- We also incorporated water quality measures into a quantitative piece of research into the level of support for outperformance payments and the range more generally.

The research materials are available in Appendix 21 and Appendix 22.
2.2.1 Qualitative research findings

We received the findings of this research from the market research agency, Blue Marble on the 22nd March 2019.

In summary:
- Customers consistently said that water quality was amongst their top priorities.
- They were satisfied with current performance.
- They are highly sensitive to the water quality events addressed by the ERI even if they do not impact on themselves directly.
- They expect performance and therefore targets to be high on this measure.
- In-depth exploration suggests a willingness for outperformance payments of £13 on their bill for the highest level of performance.
- There is an indication that a premium for water quality might have greater value than other outperformance payments and satisfaction overall weakens when told that the total range of outperformance payments for all measures could be up to £30.

These qualitative research findings are consistent with the updated approach that we have taken with the ERI measure which:
- sets a stretching target that requires very high performance
- allows for outperformance payments which are capped at £13.

In terms of the final conclusion we note that in this research it was not possible to explain the wide range of other measures that contribute to the £30 likely maximum outperformance payment, however it appears that customers would expect the ERI measure to have a high weighting within our overall package.

While satisfaction is weaker when presented within the £30 total package a greater number remain satisfied than are unsatisfied. We also note that the £30 total value presented to customers was calculated on an additive approach to P90 performance on ODIs. Using a more accurate probability modelling approach the actual P90 level is c.£15 so on the basis of this research we can gain some confidence that our package as a whole would retain customer support.

The full report and stimulus material for the Blue Marble research is available in Appendix 21.

New quantitative research from Turquoise Thinking Market Research has also shown high levels of customer support for outperformance payments, with around two-thirds supporting the availability of payments in the area of water quality - the same proportion to those supporting outperformance payments in the core areas that include sewer flooding, supply interruptions and leakage.

In the research 20% of customers removed the ERI measure from eligibility for outperformance payments, however for every measure tested the percentage ranged from 16%-23% so there is no evidence that there is less support for this measure than any other.
We cover further details of this research and how we have interpreted it below and the full findings are shown in Appendix 22.

2.3 Further customer engagement on the range of incentives available for bespoke performance commitments

We commissioned Turquoise Thinking to undertake quantitative research on our behalf that aimed to test:

- the level of support for outperformance payments on our bespoke performance commitments, including our ERI performance commitment
- the level of support for the overall range of incentive payments in our plan.

This is challenging subject area to test on a quantitative basis because there is significant amount of context and a large number of concepts to get across to customers. The breadth of the research also means that it is difficult for customers to understand what precisely they will be getting for their money and this is likely to have reduced the level of support for outperformance payments compared to a more in-depth qualitative-style approach that we did in advance of our September 2018 submission.

The research presented customers with groupings of performance commitments together with ranges of potential bill impacts of outperformance that could apply at the group level.

Customers were asked to show support or otherwise for the levels shown and could also then remove individual measures from consideration for outperformance payments.

The range of values we showed in the research were equivalent to the following:

- No outperformance payments available.
- Our additive P90 level.
- Our more accurate probability based aggregate P90 level allocated pro-rata back to each group of measures.
- A level above the additive P90.

We presented these levels to customers in terms of how well we would need to perform compared to the best company ODI performance to date (as published in Ofwat’s Service and Delivery report 2017-18).

The research showed that:

- support for outperformance payments on each grouping tested was between 66% and 69%
- we can infer that support for outperformance payments more generally is in that range
- there is no single performance commitment that stands out to customers as one that shouldn’t carry a potential outperformance payment
- while there is a drop off in support at the higher levels of outperformance payment, the fall is inelastic with bill impact and therefore a reduction in the value of payments is unlikely to increase support a great deal
• the average acceptable level of payment was c.£21 and the market researcher notes that, given the high level of acceptability for the maximum level available, the data suggests there may be potential to increase the level of performance payments.
• a minority appear to be not supportive of any outperformance payments and this appears to be driven by attitudes to the water industry and the water company rather than affordability.

We can therefore be confident that the majority of customers support the availability of outperformance payments on all the measures tested.

The average level of acceptability of c.£21 is well above the expected “likely best-case” implied by our ODI package (i.e. the P90 calculation of our ODI package modelled on a probabilistic basis is c.£15).

We therefore consider that we have good support for the approach given that we have support for outperformance payments at the true likely maximum aggregate level.

We note that £21 is below the additive P90 calculation of our ODI package of c.£30 however we need also to consider that:
• scaling down the level of reward package will reduce the true likely best case well below the level customers have shown support for – reducing these incentives is therefore not in customers’ interests.
• the data suggests that £21 may be an underestimate of the average
• that the already complex nature of the research made it difficult to describe in detail what customers would be getting for their money, in our view this is likely to suppress the level of support given
• we have proposed to limit in-year performance payments to 2% of RORE and to consider alongside the WWP whether any payments due above that value were the result of fortuitous events before proposing an RCV adjustment in 2025.
• £30 is well beyond the true likely best case.

We have also already taken steps in our plan to help address the concerns of the minority of customers about outperformance payments in general by committing to 20% of net rewards earned being invested back into the community.

Turquoise Thinking’s full findings of this research are shown as Appendix 22.

2.4 Long-term bills

Ofwat considered that we had not provided sufficient evidence to demonstrate that we have engaged with customers on bills beyond 2025, particularly for the 2025-30 period.

It asked us to undertake customer engagement on long-term bill profiles for the 2025-30 period and provide sufficient evidence to outline customer support for each of the profiles tested. We were asked to confirm that testing has been assured by our CCG and conducted in line with social research best practice.
One of Ofwat’s principles of customer engagement set out in its methodology was that it should be proportionate.

Having considered the requirement above and the views of the WWP we have concluded that it would not be proportionate, or in customers’ interests, to engage further at this stage about bill profiles between 2025 and 2030. Our reasoning is set-out below.

2.4.1 Ofwat’s view that we are proposing an above 7% real terms bill increase in 2025 is taken from the completed Ofwat financial model and is not in line with our actual plan forecast which is for much smaller and gradual increases after 2025. Notably, these forecast increases after 2025 are lower than the expected increases in average earnings over the same period.

Our approach to long term bill profiles was covered in our plan’s main narrative in section 2.4. An error on our part meant that when completing Ofwat’s model for 2025 to 2030 we did not smooth the resulting revenues and therefore the bills over that same period.

Our research has clearly (and repeatedly) told us that customers prefer gradual changes in bills. That is what our plan sets out to do, having recognised an efficiency challenge in 2020 and our forecast is that we will continue to be able to take that approach post 2025. In figure 2-9 of the main narrative document (reproduced below as figure 2-1) we show the expected profile of bills in the long-run.

Figure 2-1: Longer-term projection of bills vs income

This analysis was derived from our own company “price setter” model. It shows that our forecast at that stage was that there will be small real terms bill increases each year from 2025 onwards but that these will be below the expected change in average earnings so should not increase affordability problems. We will also continue to expand our assistance for those on the lowest incomes.

In our own financial model we smoothed the potential impact on bills in 2025 across the period 2025-2035. We used our own model when developing our plan because it was some time through the PR19 process before we could be confident that the published model was robust.
The approach we had taken for our forecasts post 2025 in our plan is therefore in line with customers' general preferences around bill profiles that we have undertaken as part of PR19 and in previous price reviews.

We have updated the Ofwat financial model and our smoothed bill profile shares the same characteristics as that in our own model.

2.4.2 **Our proposals for revenue recovery in 2020-25 have no knock-on impact on the revenues recovered in 2025 to 2030**

Our plan does not seek to move the amount of revenue recovered from customers’ bills either forwards or backwards into different price review periods. This is consistent with our customer research findings and means that there is no deliberate intergenerational effect of our proposals.

Additionally, because the vast majority of our investment is required to meet pre-2025 legally required dates or for performance commitments that apply within the period, none of our large investments requires any implied company or regulatory commitment into the next period in a way that in previous price reviews our Grid and North Bristol Sewer strategy have done.

We also explained in Section 9.12 of our plan how we have balanced the preferences of customers with the need to maintain our financial ratios at a healthy level when setting our preferred bill profile during 2020-2025.

2.4.3 **The level of uncertainty in our assumptions post 2025 means that there is a wide range of credible outcomes for bills between 2020 and 2025**

We have to make a large number of assumptions when calculating the values post 2025 leading to a great deal of uncertainty:

- We have assumed that the size of our environmental programme between 2025 and 2030 is the long-term average but these have varied by a ratio of 5:1 over successive 5-year periods. The impact on bills of this would be -3% to +6% on the assumptions contained within our forecast.
- While we have assumed that the determined cost of capital remains stable post 2025 these values are expected to have varied by 1% from one five-year period to the next. The impact on bills of a further 1% change in 2025 is +/-8%.
- Under or out performance of our performance and expenditure targets between 2020 and 2025 could also impact bills after 2025. If we assume a reasonable level of variation this could mean an impact +/-4% on the bills.

Once customers become aware of the wide range of uncertainty in future bills it is likely that this will reduce their engagement in the discussion. It will be obvious to customers that it is unlikely that the conclusions from the engagement will result in us being able to take tangible management action now to ensure we reflect customers’ views from 2025 onwards.
Our view therefore is that it is appropriate to rely on the research that we have done about bill profiles in general and for these principles to be applied to the period after 2025 in our projections.

2.4.4 While we are clearly mindful of the long-term potential for bill changes, nothing that the regulator determines at PR19 can be binding on either the regulator or the company post 2025. The company licence is clear that price controls are set for a 5-year period for the wholesale business

While we must be, and are, mindful of the long-term potential for bill changes, it does remain the case that this is a five-year price control. We have clearly set out our plans in the context of long-run bills, however we are not seeking customer support now for additional investments required post 2025 given the level of uncertainty that this entails and as explained there are no major investments planned that will have impacts across price controls. We believe that this also limits the benefit customers would achieve from further engagement now.

We engaged on this issue at an early stage with the Wessex Water Partnership (WWP) which acts as our Customer Challenge Group. The WWP agreed with us that more research in this area was not in customers’ interests given the other items of research that the company planned to undertake over the same period.

2.5 The Wessex Water Partnership

We have engaged extensively with the WWP since the submission of our plan in September 2018 and since Ofwat’s IAP published at the end of January 2019.

The WWP has contributed to and commented on our research proposals and we have discussed and explained any changes to our Performance Commitments and ODIs with them.

The WWP has not finalised its report at the time of writing but has indicated that they:

- anticipate that our customer engagement will be of good quality, taking into account the limited timeframe
- agree with our decision on not undertaking more research on long term bill profiles
- understand the company’s position on whether or not it will change the original proposals for PCs and ODIs.
3. Cost assessment

This section covers:
- Ofwat’s cost assessment approach
- the changes we have made to our investment programme and expenditure forecasts
- additional evidence in response to the efficiency challenge in the IAP.

It is structured around the following headings:
- Summary of changes.
- Introductory remarks.
- Enhancement costs.
- Base costs.
- Retail costs.
- Cost adjustment claims.

3.1 Summary of changes made

In total the difference between our September 2018 investment proposals and Ofwat’s IAP is £287m.

We have reconsidered our investment proposals in the light of Ofwat’s cost assessment, additional engagement with the EA and having considered the information available from other companies’ plans. Having challenged ourselves in this way we have made the following adjustments to our plan expenditure:

<table>
<thead>
<tr>
<th>Change made</th>
<th>Reduced toex value (£m)</th>
<th>Where to find additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply business rates</td>
<td>-4.5</td>
<td>Section 3.4</td>
</tr>
<tr>
<td>Wastewater business rates</td>
<td>-12.8</td>
<td>Section 3.4</td>
</tr>
<tr>
<td>Expenditure to deliver reductions in pollutions</td>
<td>-12.3</td>
<td>Section 3.3.2 below and Appendix 4</td>
</tr>
<tr>
<td>Expenditure to deliver reductions in sewer flooding incidents</td>
<td>-2.2</td>
<td>Section 3.3.2 below and Appendix 7</td>
</tr>
<tr>
<td>WINEP groundwater schemes</td>
<td>-10.8</td>
<td>Section 3.3.2 below and Appendix 4</td>
</tr>
<tr>
<td>Total</td>
<td>-42.6</td>
<td></td>
</tr>
</tbody>
</table>
Additionally, we are able to withdraw our cost adjustment claim for "number of non-infrastructure supply assets" because we believe the models as published at the IAP take sufficient account of our differences in this area. We would reconsider this in the event that the final models are different to those currently published.

### 3.2 Introductory remarks

We recognise that:

- the approach Ofwat has taken to assessing cost allowances is in many areas a marked improvement on PR14
- more than ever we need to show how the industry is delivering better value for money for customers.

In this context Ofwat’s proposed 1.5% annual frontier-shift productivity assumption is understandable and could be acceptable as part of an “in the round” assessment of the financeability of our plan and the other parameters. This is despite it being well in excess of the levels of productivity improvement seen in the wider UK economy in recent years and of the forecasts made by expert bodies such as the OBR.

We are concerned that some of Ofwat’s other policy decisions mean that the true level of efficiency challenge in its IAP, even for frontier performing companies such as ourselves is well in excess of the 1.5% headline productivity assumption. In particular:

- the assumption that there should be no allowance made for input cost increases above CPIH
- we disagree that all the opex costs for delivering new obligations are included in the base cost allowance
- while we accept there may be evidence that in some areas the base cost allowances include sufficient allowance for historical upper quartile levels of performance commitments, there is no evidence that they are sufficient to meet future upper quartile performance commitment levels up to 2025
- the relatively coarse approach to modelling enhancement costs, combined with a policy of funding at the lower of the modelled cost and company’s business plan cost seems likely to lead to allowances that are systematically too low (as under-estimation of efficient costs in some models is not cancelled out by over-estimation from other models).

For Wessex Water we think that these items amount to a further cost challenge of over £200m over the five-year period, equivalent to an annual additional frontier shift target of more than 3% each year, therefore more than 4.5% per year in total. We do not think that this is a reasonable assumption.

Elements of Ofwat’s approach also recreate incentives for companies to favour capex-based solutions to delivering outcomes which the totex methodology was designed to remove. We have a good track record of generating cost efficiencies through market solutions, behavioural and customer engagement approaches and through catchment interventions, rather than building new assets. The cost assessment method adopted for the IAP takes the approach that enhancement allowances are capex only. In developing our plan, in line with
the totex philosophy, we worked hard to consider a wide range of options, including asset solutions and operational improvements. Disallowing the opex costs appears to be contrary to the totex principle and is a disincentive to efficiency and innovation.

In this response therefore we provide some practical approaches by which some of these issues can be addressed in time for draft determinations. We also provide information to address some specific issues in the assessment of costs, for instance where incorrect data has been used or where the need for a particular investment has been challenged.

3.3 Enhancement costs

In this section we provide our views on the enhancement cost modelling undertaken for the IAP. In addition, we provide more evidence and comments on the efficiency challenge in the IAP, describe the changes to our investment programme to reflect changes since submission in September 2018 and highlight the additional board assurance we have obtained.

3.3.1 Our views on the enhancement cost modelling approach

We recognise that assessing efficient enhancement costs is more difficult than for base costs, and that Ofwat’s preference is to assess costs using benchmarking analysis.

Enhancement investments by their nature tend often to be very specific to statutory drivers, and include site specific requirements and constraints. In some cases there are multiple statutory drivers that interact requiring holistic site solutions that are not readily modelled and may require that greater weight is applied to “deep dives”. In other cases, such as event duration monitors, there is a large national programme and therefore a unit cost approach seems reasonable, but only provided all the costs have been allocated consistently.

We think that these issues are evidenced by the very wide ranges of efficiency implied by many of the models which can be seen in the following chart which shows the range of actual costs compared to the modelled allowance in percentage terms for wholesale wastewater. For comparison we show the range generated by the base cost modelling approach.
We have reviewed Ofwat’s IAP Technical Appendix 2 – Securing cost efficiency and all the enhancement cost models that apply to our investment programme. In the accompanying appendices we have aimed to identify any deficiencies in the models and propose a way forward prior to determinations. Tables 3-2 and 3-3 below provide a summary of our comments on the enhancement cost models, which we hope will be helpful and can be taken in account at draft determination.

Table 3-2: Enhancement capex cost models for wastewater

<table>
<thead>
<tr>
<th>Ofwat enhancement model (business plan table &amp; line)</th>
<th>Comments</th>
<th>Suggested actions for Ofwat</th>
<th>Further information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINEP ~ Conservation drivers (WWS2 line 4)</td>
<td>We provided further details of our proposals.</td>
<td>Review deep dive</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Event Duration Monitoring at intermittent discharges (WWS2 line 6)</td>
<td>We have concerns about the robustness of the model, as there is a wide range of unit costs and uncertainty about the allocation of permit application costs.</td>
<td>Clarify the allocation of costs, remove outlier unit costs, and remodel accordingly</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Flow monitoring at sewage treatment works (WWS2 line 7)</td>
<td>We have concerns about the robustness of the model. The stated industry median unit cost is not even sufficient to obtain the MCerts certification let alone the costs of reconstructing inlet flow measurement. Our scope of works have been identified from detailed site investigations.</td>
<td>Consider a deep dive approach on large schemes (e.g. Poole). Clarify the allocation of costs between improvements (U_MON4) and investigations (U_INV2), and remodel accordingly</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>Ofwat enhancement model (business plan table &amp; line)</td>
<td>Comments</td>
<td>Suggested actions for Ofwat</td>
<td>Further information available</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>----------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>WINEP ~ Schemes to increase flow to full treatment (WWS2 line 9)</td>
<td>We have concerns about the robustness of the model. We have one very large (Avonmouth) and one large (Saltford) scheme which have particular engineering challenges and which, due to their size and particular characteristics, skew the modelling.</td>
<td>Deep dive on Avonmouth and Saltford STWs as large schemes. Update model for other schemes accordingly.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Storage schemes at STWs to increase storm tank capacity (WWS2 line 10)</td>
<td>We have concerns about the robustness of the model. We consider that the low correlation of the number of schemes variable does not adequately explain economies of scale.</td>
<td>Review weighting between models to better reflect their relative strengths.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Storage schemes in the network to reduce spill frequency (WWS2 line 11)</td>
<td>We have concerns about the robustness of the model, as it does not take into account economies of scale. Our programme for improving FSOs has the largest number of improvements compared to other companies, and we have also included the cost of our FSO investigations against this driver.</td>
<td>Clarify the allocation of costs between improvements (U_IMP4) and investigations (U_INV). Include economies of scale variable within improvement models.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Chemicals removal schemes (WWS2 line 12)</td>
<td>We have concerns about the robustness of the model. It does not take into consideration the specific chemical of interest to be removed (which has a significant impact on the cost), the sites’ existing performance and removal rate, nor the required new permit level. Nor does the model consider specific site constraints.</td>
<td>Review deep dives.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ Nutrients (P Removal) (WWS2 lines 18, 19 &amp; 35)</td>
<td>The model also uses the wrong number of sites requiring improvement, and thus requires correction. We also have concerns that the model does not take into consideration the extent of the change in permit levels or site-specific requirements.</td>
<td>Correct number of sites requiring improvement, and remodel accordingly.</td>
<td>Appendix 4</td>
</tr>
</tbody>
</table>
### Table 3-3: Enhancement cost models for water

<table>
<thead>
<tr>
<th>Ofwat enhancement model (business plan table &amp; line)</th>
<th>Comments</th>
<th>Suggested actions for Ofwat</th>
<th>Further information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting lead standards (WS2 lines 6 &amp; 45)</td>
<td>Our main concern about the models is the treatment of opex, which appears to be inconsistent between companies. A totex unit cost model that considered costs between opex and capex. Consider a totex unit cost model.</td>
<td>Review allocation of costs between opex and capex. Consider a totex unit cost model.</td>
<td>Appendix 6</td>
</tr>
<tr>
<td>WINEP ~ Reduction of sanitary parameters (WWS2 line 20)</td>
<td>We have concerns about the robustness of the model, as it does not take into consideration the number of unique sites requiring improvements or the extent of the change in permit levels. Nor does the model consider specific site constraints.</td>
<td>Carry out a deep dive using the latest information.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>WINEP ~ UV disinfection (or similar) (WWS2 line 21)</td>
<td>We have corrected a mistake in the data tables for our PE, however have concerns about figures provided by some other companies. We have concerns about the robustness of the model, as it does not consider the need to improve/existing other treatment processes to meet the disinfection requirements.</td>
<td>Update model for correct PE. Review deep dives.</td>
<td>Appendix 4</td>
</tr>
<tr>
<td>New development, new connections, growth at sewage treatment works and reducing sewer flooding (wastewater growth model) (WWS2 lines 25, 26 &amp; 27)</td>
<td>This is a combined model, with the main input parameters being growth in connections. The investments required to address the different elements that have been bundled together are very different and not adequately represented by the model. For instance a significant component relates to dry weather flow (DWF) scheme that are driven by permit changes. There appear to be inconsistencies in the allocation of cost for growth across the industry which skews the results.</td>
<td>We suggest adopting an alternative approach of separate models for true growth related expenditure and sewer flooding plus a deep dive approach for sewage treatment works growth making due allowance for any implicit funding for opex in the base cost models.</td>
<td>Appendix 10</td>
</tr>
</tbody>
</table>
Our Response to Ofwat’s Initial Assessment of Plans

### Ofwat enhancement model (business plan table & line)

<table>
<thead>
<tr>
<th>Comments</th>
<th>Suggested actions for Ofwat</th>
<th>Further information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>capex and opex might be appropriate.</td>
<td>Ideally restate all s.45 costs on a consistent basis before modelling allowances. Alternatively calculate implicit allowances from base models and identify where this is not sufficient (or is too much) to cover required efficient expenditure on s.45 connections</td>
<td>Appendix 5</td>
</tr>
</tbody>
</table>

- Supply-demand balance combined model - leakage (WS2 lines 25 & 64) | See our comments on allowances for leakage reduction elsewhere | |
- New developments and new connections (water growth model) (WS2 lines 11 & 12) | The IAP modelling cost assessment approach will unduly favour companies who do not report s.45 connection costs as opex as they will receive both an implicit allowance from the base models and a capex allowance. | |
- Metering (WS2 lines 21.22, 60 & 61) | No comments | - |

### 3.3.2 Changes to investment programme and expenditure forecasts

We have reduced the cost of our investment programme for:

- changes in statutory obligations agreed with the Environment Agency
- revisions in performance commitment targets.

The changes are in the Wastewater network plus price control. We have reduced our enhancement investment requirements by £25m (totex) to allow for changes in the WINEP and the revised PC targets for pollutions and sewer flooding and reflecting the relationships between costs and outcomes more generally.

We have not made any changes to the investment requirements for Water resources, Water network plus or Bioresources.

**Changes in statutory obligations**

In our PR19 submission we recognised that we had a very large environment programme, driven by the statutory obligations included in the Water Industry National Environment Programme (WINEP). Prior to submission we worked intensively and collaboratively with the Environment Agency and Natural England to ensure that we had the most cost effective plan whilst still meeting the extensive list of statutory obligations included in the WINEP and the performance expectations set out in the Water Industry Strategic Environmental Requirements (WISER) issued by the EA. For example we were successful in changing the phosphorus removal programme so that it is now based on a combination of catchment
interventions and cost effective phosphorus removal at our sewage treatment works, avoiding £50m of investment.

We continued that process after submission of our plan. We have agreed a revised solution for two groundwater nitrogen removal schemes. We have agreed with the EA that two high cost nitrogen removal schemes at sewage treatment works discharging to groundwater can be removed, and the equivalent environmental outcome achieved through catchment management schemes and an investigation. These changes are included in our revised plan.

Early engagement with the EA has been essential for us in agreeing a more sustainable and lower cost approach in good time given that many of the environmental improvements are required to be delivered early in the period.

Revisions to performance commitment targets
In the IAP Ofwat has proposed industry wide target levels for a number of performance commitments which has had a particular impact on us in two areas:

- Pollution incidents – the 2024/25 target has been amended from 17 to 19 pollutions per 10,000km, a 15% reduction for Wessex rather than the 25% reduction in our plan submission.
- Sewer flooding – internal sewer 2024/25 target relaxed from 1.24 to 1.34 incidents per 10,000 sewer connections, 16% reduction for Wessex rather than the 25% reduction in our plan submission.

We have accepted these changes to our PCs while retaining our board’s commitment to minimising sewer flooding and aiming for zero pollutions.

Expenditure changes
Expenditure changes are summarised in the Table 3-4 below, with more detail provided in appendices 4 and 7.

| Table 3-4: Summary of expenditure changes |
|-------------------------------------------------|------------------------------|
| Ofwat model / driver | Reduction (totex) £m | Changes |
| WINEP – Groundwater schemes: | | |
| • Two nitrogen removal schemes removed, and replaced with | - 10.8 | • Revised business plan enhancement expenditure tables |
| • Two catchment management schemes together with an investigation. | | • Minor revision to PC for km of river improved |
| Pollution reduction: | | |
| • 2024/25 Target amended to 19 pollutions per 10,000km of sewer | - 12.3 | • Revised business plan enhancement expenditure tables |
| | | • Revised PC target for pollutions |
| Sewer flooding | | |
| • 2024/25 target amended to 1.34 incidents per 10,000 sewer connections | - 2.2 | • Revised business plan enhancement expenditure tables |
| | | • Revised PC target for sewer flooding |
| Total | - 25.3 | |

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Suggested action for Ofwat

To take note of the fact that we have made changes to our plan costs in a way that is consistent with the cost information for incremental changes in outcome levels that we provided in our original plan’s cost benefit analysis. Also that we have continued to work with the EA to identify opportunities to reduce the overall expenditure requirement.

3.3.3 Opex related to our environmental and service enhancement programme and growth

We have concerns about this area of Ofwat’s IAP in particular because it appears to recreate incentives for companies to propose capex solutions rather than those that require higher levels of opex but have a lower whole life cost and are more sustainable.

We commissioned a report from Reckon LLP which is available as Appendix 13 of this document to identify the issues and to suggest practical ways that the issues can be resolved between now and the draft determination.

Growth

We suggest that Ofwat’s cost assessment differentiates between opex driven by growth and opex driven by investment for new statutory obligations and service improvements.

While we do not agree that the base cost allowance in the IAP is sufficient to deliver the additional ongoing costs associated with our enhancement programme, in line with the report from Reckon we accept that there is an implicit allowance in the base costs for enhancement opex for drivers that are driven by the growth in numbers of customers and/or growth in demand. That some allowance for growth is implicit within the allowance derived for base costs follows from:

- Ofwat’s econometric models to assess base costs include variables that reflect the scale of companies; and
- the fact that Ofwat derives allowances for base costs for the 2020-25 period using forecasts of the cost drivers for that period, and the forecast on those scale variables reflects the forecast in companies’ growth.

One way of estimating the magnitude of the implicit allowance for enhancement operating expenditure that is captured within the allowance for base service is as follows:

- Taking water and wastewater separately, for each of Ofwat’s IAP models for base service, calculate the modelled base costs for 2020-25 under the assumption that, for those cost drivers relating to scale – and only for those cost drivers – the values over that period were frozen at the levels forecast for 2019/20.
- Using the set of weights of Ofwat’s triangulation approach, calculate the weighted-average of these modelled costs and subtract the result from the allowance for base costs made by Ofwat. The difference can be interpreted as the implicit allowance for base costs attributable to growth in the scale of each company.
- Some of that difference will reflect allowances for capital maintenance and some to opex, as both are part of the base costs modelled through the econometric models. Allocate the difference between these two using the industry-average split of these two measures from 2011-18.
The capital maintenance will relate to increased maintenance required on previously created assets to serve a larger population and should be ignored here, leaving the opex to capture the running cost of new assets created and the cost of making s.45 new connections – this is the implicit allowance.

Following this approach an estimate of the implicit allowances for enhancement operating expenditure relating to company growth, within the IAP base cost allowance, is given in Table 3-5 below. Note that these are not the same as an appropriate allowance for enhancement opex for growth.

**Table 3-5: Maximum implicit allowance for opex related to growth in base cost allowances**

<table>
<thead>
<tr>
<th>Service</th>
<th>Estimate of implicit allowance £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water – enhancement categories driven by growth:</td>
<td></td>
</tr>
<tr>
<td>• New developments and connections</td>
<td>2.4</td>
</tr>
<tr>
<td>• Supply/demand enhancements</td>
<td></td>
</tr>
<tr>
<td>Wastewater - enhancement categories driven by growth:</td>
<td></td>
</tr>
<tr>
<td>• New development and growth</td>
<td>6.1</td>
</tr>
<tr>
<td>• Growth at sewage treatment works (excl. sludge treatment)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.5</td>
</tr>
</tbody>
</table>

In particular, for water supply we note that these allowances are well below the £9.8m of s.45 new connection costs that we expect to face and which we account for as opex. We think that there are reasons for this which are explained in the following paragraphs.

Companies approaches differ when reporting s.45 new connection costs both in their annual reporting and in their PR19 submission in line with their accounting policies. To the extent that companies have historically reported these as opex these are captured in the base cost models, but to the extent that a significant number of companies report these costs as enhancement capex these will be excluded from the base cost models.

This means that due to the differing approach to reporting new development costs there is some implicit allowance in the base models for every company; however due to the inconsistency of reporting it will not capture the full costs.

The IAP methodology for allowing costs would therefore unduly benefit those companies who report these costs as enhancement capex, allowing funding through the implicit allowance and through the specific enhancement capex funding. Similarly, it will disadvantage companies who report these costs as opex, only funding them an incomplete implicit allowance, because Ofwat has disallowed the enhancement opex element.

The ideal resolution would be to either include or exclude the new development costs – ensure that across the industry the treatment of costs is consistent (i.e. transfer enhancement capex to opex or transfer opex to the enhancement capex line), re-run the models and then assess this enhancement item as either entirely capex, if these costs are excluded from the base costs or just rely on the implicit allowance if they are included in the base costs. As it stands, sufficient data on costs is not published to perform the full calculation above, we can however estimate the implicit allowance in the base cost models using the methodology above.
Opex related to other enhancement programmes

Regarding new statutory obligations, our investment programme includes a large WINEP programme with new treatment processes and associated opex and a drinking water quality programme with additional opex. Furthermore, there is a significant tranche of environmental improvements that need to be completed and fully operational from 2022 which will substantially impact on our operating costs for three full years.

Some of the innovative approaches we have agreed with the EA to deliver our phosphorus removal programme are deliberately higher opex approaches that are lower whole life cost.

The approach of removing allowances for these costs therefore removes the company incentive to propose these approaches.

The appendices to this document provide further evidence as to the nature of the opex cost that is created by our investment programme.

Our plan includes investment to deliver step-changes in the service levels provided for leakage, supply interruptions, pollution reduction and sewer flooding. These proposals include a mix of capex and opex interventions. We therefore present in the following paragraphs of this document evidence to show that Ofwat’s approach to setting base cost allowances cannot in our view be said to sufficiently allow for these costs.

Suggested action for Ofwat

To review the Reckon report and consider its suggestions for ways to calculate the true implicit allowances in the modelling approach and make sufficient allowance for the efficient opex impacts of our investment proposals. Also and relatedly to ensure that the bias towards capex solutions in its IAP is removed.

3.3.4 Do the wholesale base cost models include sufficient allowance (capex and opex) for enhancing common performance commitment service levels to the future upper quartile level and to cut leakage by 15%

In this section we consider the improvements required to the core common performance commitments up to the future industry upper quartile (through targets or deadband levels) as estimated by Ofwat at its IAP. These include supply interruptions, sewer flooding, water quality (CRI), STW compliance and pollutions as well as leakage. For us, given our investment proposals we have particular interest in supply interruptions, sewer flooding, leakage and pollutions.

Having considered this question carefully we think that the answer to this is almost certainly no. We do not dismiss however the view that the modelling approach might implicitly allow for performance levels at or close to the historical upper quartile on some measures.

For this discussion that covers both capex and opex we have drawn on the analysis and suggestions of Reckon LLP in their report to us specifically about enhancement opex (Appendix 13) and have found it helpful to separate the issue into four questions.
• Does a higher standard of service level require a higher level of expenditure?
• Is it reasonable to assume that the base cost models allow for upper quartile performance over the period from which the data is drawn?
• Having then set base expenditure targets at the upper quartile (i.e. low) cost level with an additional forward-looking assumption of frontier shift is this consistent with upper quartile performance levels?
• Does the cost allowance also cover the delivery of stretching improvements to the upper quartile levels of performance up to 2025?

We deal with each of these in turn in the following sections.

**Question 1 - Does a higher level of service require a higher level of expenditure?**

This is not the truism it might appear to be as it is possible to identify some areas of the economy where better service can result in lower costs. In retail style businesses avoiding complaints and contacts by delivering what customers want first time reduces costs by reducing the activities that drive retail business costs. Notably in this example it is the thin retail business that benefits, not the wholesaler who has had to produce the item, the costs of which could dwarf the costs of the retail element.

For wholesalers though, producing a better-quality product will almost always require additional cost to deliver those extra added-value items. For the wholesale water industry therefore (through stretching performance commitment targets) companies are offering a better-quality product to customers and the environment. That could be for instance less water leaked, less escapes of sewage into private property or higher levels of water quality compliance.

We acknowledge that it is possible to point to examples of innovations that have resulted in a better product quality at no additional costs, however:

• one would also need to acknowledge the sunk costs of all the unsuccessful innovations in that calculation
• one would also need to take care not to double count assumptions on productivity improvement made elsewhere in the assessment of costs
• these exceptions should not be said to change the general rule that, all else equal, a higher quality product will be more costly to deliver.

Ofwat argues in its IAP that some previous enhancement activity can be discontinued and the associated costs can be saved to make way for new levels of improvement.

In the specifics of these measures incremental improvement to product quality will generally require either a new investment (capex) that will create some ongoing recurrent costs to run the asset (opex) or perhaps solely additional ongoing opex. In either case however if this replaced activity that was already taking place then the net increment to performance would not be as great. Effective company management will also always choose the most cost-effective measures first so overall costs will still increase to deliver the better performance.
Ofwat suggests that there may be some previous dimensions of enhancement that can be discontinued so that the costs of better service levels offered in future can be absorbed. We do not think that this is how the water industry and its regulation works in practice. The PR19 methodology itself made clear that companies needed to make a compelling case to discontinue any performance commitment, and indeed Ofwat has suggested that we reinstate some measures of quality that we had proposed to remove in its IAP. The number of PCs that we have proposed has increased by around one third from the number we currently have and there is an implied presumption that performance levels, once achieved will not be allowed to deteriorate. For instance in its methodology Ofwat referred to the need for the best past performance to inform companies targets, and also “to use information on their past improvements “to forecast what the best past performance would be in the year 2024-25”.

Question 2 - Do the models allow for upper quartile performance levels over the period from which the data was drawn as a matter of principle?

The question here is what quality of product in principle does Ofwat’s modelling approach make allowance for. We have long argued that Ofwat’s cost assessment approach needs to take into account both service levels and costs when it assesses efficiency.

We also recognise that service levels are very difficult to include in a modelling approach which creates statistically significant explanatory variables. Ofwat has understandably therefore not included measures of service level in its base model costs. Our starting point then can be that the models therefore assess the average level of costs companies should incur to deliver the average level of service having controlled for other factors that are outside management control.

Before we move on however we do need to consider however whether there is any implicit allowance for service created by a correlation between any of the explanatory variables with high service levels. We think that it is unlikely that any of the chosen explanatory factors are highly correlated with measures of service levels. For instance, on wastewater, environmental compliance tends to be measured against investment specific parameters - i.e. higher treatment levels are applied where consents to discharge are themselves tougher to meet so it is the effective operation of the assets that drives the performance against the service-level metric not the assets themselves. On water supply, while the compliance levels are fixed at absolutes the treatment complexity itself is driven and optimised based on the quality of the incoming source water and it is the effective operation of those assets that drives performance against water quality measures not the existence of the assets themselves.

The evidence therefore suggests that there is no general statistical property of Ofwat’s base cost models which meant that they fund upper quartile performance or product quality - however we next need to consider if in some areas they still implicitly allow for better performance.
Question 3 - Is setting the IAP cost allowance at the upper quartile (i.e. low) cost level with an additional forward-looking assumption of frontier shift consistent with upper quartile performance levels?

Given our reasoning on the previous question it might be thought self-evident that the answer to this question is also no.

It might however be argued that the results of a well-run company can be seen in two ways.

- That it is able to control costs and deliver greater efficiency.
- That it is able to innovate and drive better product delivery.

We have argued above that Ofwat's models do not control for different levels of product quality. What we have not done is considered whether the impact of effective management results in a positive correlation between being low cost and delivering high product quality - i.e. that the impact of strong management on keeping costs down outweighs the intrinsic costs of delivering a better-quality product.

An interesting analysis therefore is whether the modelling approach has identified strong performers on service level quality as the upper quartile efficient (or low cost) companies. We show some initial findings below which is a development of a similar analysis we provided in our business plan submission.

The following tables show the most recent performance in the key customer/environment-facing measures of each company judged to be upper quartile in comparative historical base costs (i.e. low cost) in Ofwat's IAP cost assessment².

| Table 3-5: Product quality for upper quartile (low) cost wholesale water companies |
|---------------------------------|---------------|----------|-----------|-----|----------|
| Water quality (CRI)            | Portsmouth    | Yorkshire| Dee Valley| Wessex| South West|
|                                | Upper quartile| Below average| Upper quartile| Upper quartile| Above average|
| Supply interruptions           | Upper quartile| Above average| Upper quartile| Above average| Bottom quartile|
| Leakage (per km of pipe)       | Bottom quartile| Below average| Above average| Above average| Upper quartile|
| Leakage (per property)         | Below average| Below average| Upper quartile| Below average| Above average|
| Per capita use                 | Below average| Upper quartile| Upper quartile| Upper quartile| Above average|

² We do not include the common asset-health measures in the analysis because to date they have not been considered as comparative measures and companies have generally targeted stable asset health. One could choose however to expand the analysis by incorporating a measure of how successful the company has been in meeting its own asset health targets.
Table 3-6: Product quality for upper quartile (low) cost wholesale wastewater companies

<table>
<thead>
<tr>
<th></th>
<th>Wessex</th>
<th>Severn Trent</th>
<th>Thames</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer flooding (internal)</td>
<td>Upper quartile</td>
<td>Upper quartile</td>
<td>Above average</td>
</tr>
<tr>
<td>Sewer flooding (external)</td>
<td>Above average</td>
<td>Upper quartile</td>
<td>Upper quartile</td>
</tr>
<tr>
<td>Pollutions</td>
<td>Upper quartile</td>
<td>Above average</td>
<td>Upper quartile</td>
</tr>
<tr>
<td>Treatment work compliance</td>
<td>Upper quartile</td>
<td>Upper quartile</td>
<td>Upper quartile</td>
</tr>
<tr>
<td>EA’s Environmental Performance Assessment</td>
<td>Upper quartile</td>
<td>Upper quartile</td>
<td>Above average</td>
</tr>
</tbody>
</table>

The evidence above is not conclusive, however there is some suggestion that low costs in the wastewater sector are correlated with upper quartile levels of customer and environmental performance.

On the water-supply side the evidence is weaker. There are 10 instances of upper quartile performance on the measures selected and one would expect there to be six or seven in a random selection. Of all the measures there appears to be the least, or in fact no, correlation between higher comparative leakage performance and lower base costs.

This leads us to conclude that:
- there may be some correlation between upper quartile performance and Ofwat's assessment of upper quartile cost efficiency at the IAP
- this correlation is strongest in wastewater measures
- any correlation is much weaker in water supply measures and does not appear at all in terms of leakage performance

While this evidence is not conclusive and may only apply to the particular modelling approach chosen by Ofwat at its IAP we do think that it may be possible to argue in this instance that Ofwat's IAP assessment of base costs on wastewater does allow for upper quartile historical levels of performance.

With further analysis, it may not be unreasonable therefore for Ofwat to argue that its wastewater base cost allowances allow for the historical upper quartile levels of product quality.

On water supply the evidence of this analysis at least from our own analysis is much less clear and in our view not strong enough to make the same case. And for leakage there is clearly no evidence from this analysis that the base cost allowance from the models allows for anything above the average level of historical leakage performance.

We note that assuming a reasonable level of productivity frontier shift on costs moving forward is not inconsistent with the above conclusions.

**Question 4 - Does the cost allowance cover the delivery of stretching improvements to the upper quartile levels of performance up to 2025?**

In this case we think that the answer is emphatically no, and certainly no in our case as an upper quartile performer. Having accepted that there may be some correlation between historical upper quartile levels of performance or product delivery this does not imply that these base cost allowances cover future improvements in that upper quartile.
Ofwat’s IAP has assessed that we are upper quartile efficient (in base cost terms) in both wastewater and water supply. And, leakage aside we are upper quartile or above average performers in all the key product quality areas. We are therefore not proposing investments that could be funded by reducing comparative inefficiency elsewhere.

Strong management is able to focus on the key performance targets and to keep costs down by identifying the “easy-wins” and process changes that can help deliver incremental improvements at the least cost. Building in these incremental improvements into Performance Commitment targets however is a double-count of the incremental productivity improvement already applied to the costs (remembering that productivity is a measure of the output delivered for a level of cost).

In addition to this, strong management cannot deliver step-changes in performance levels without the investment that is required to deliver this. We have identified four key areas where future investment is required to make step-changes to our performance to the future upper quartile levels:

- On supply interruptions our performance is currently above average but we need a further step-change in performance levels (c.70% improvement) to achieve the 2025 target. We are clear that we cannot deliver this step-change simply through process changes.
- On leakage where our absolute levels are around the industry average (taking an average of the two commonly-used measures) our investment is required to deliver a 15% cut in leakage, increasing activity levels to push the total leakage level down by a rate that is three times greater than the rate we have recently been achieving.
- On sewer flooding our current performance is industry leading and we require additional operating cost allowances to push the frontier forwards – although we have reduced the investment required to account for a less tough target.
- On reducing pollution we are upper quartile at the moment but our performance in this area has been stable over a number of years. We need further investment to make a further step-change to deliver against the future upper quartile target levels.

This leads us to argue that in its IAP Ofwat has not made sufficient allowance for these items (either opex or capex) in its IAP. We do not see any theoretical basis, or evidence, for the IAP view that the base cost allowances provide sufficient funding for projected future upper quartile service quality and environmental performance: in the absence of this, a policy of not funding costs of going from historical upper quartile to forecast future upper quartile can be seen as an additional regulatory efficiency challenge, and one that Ofwat has not justified or explained, especially since it is applied on top of the 1.5% productivity challenge.

We understand that leakage has a level of political importance over and above some other measures and that companies should not be seen to benefit from a perceived failure. We would note however that in our case, while our performance on leakage is broadly average in absolute terms we have:
effectively dealt with the customer impacts of leakage by already committing to fixing 90% of customer reported leaks within a day from April 2019, which is a frontier level of performance
always met our leakage reduction targets even where this has required additional expenditure to deal with more challenging weather conditions. We believe that this is certainly atypical and may be unique.
cut leakage by c.30% more than the rest of the industry since the mid-1990s.
invested appropriately to ensure that our region has not been, and is not forecast to be under water stress, despite making significant reductions in abstractions for sustainability reasons.

We provide evidence for these statements in Appendix 5.

We do not believe that the industry as a whole should necessarily be given a separate allowance at PR19 for the full costs of leakage improvements not least because it seems that the base models are likely to allow for something approaching average performance levels. We consider however that there is a strong case for allowing the efficient costs of a step-change in leakage reduction for a company with our overall efficiency and track record of delivery in this area. It is the incremental cost of delivering this step-change that we submitted in our cost adjustment claim in May 2018 and reaffirmed in our September 2018 plan submission.

Suggested action for Ofwat

We request that Ofwat considers these issues again when it calculates our draft determination, ensuring that sufficient allowance is made in costs over and above the allowances calculated from the base models to deliver the stretching and step-change levels of performance proposed. In line with the suggestions in Reckon’s report on opex we recommend that Ofwat goes line-by-line through all dimensions of service quality and environmental performance and comes to an evidence-based view on what level of performance it considers is funded by the allowances for models of historical base costs. In doing so it should take account the points made above and make use of this type of analysis. Ofwat should also recognise that, with ongoing efficiency reflected in a 1.5% productivity challenge, efficient upper quartile companies will need additional costs to achieve the future upper quartiles if this is significantly more demanding than historical upper quartile.

3.3.5 Additional evidence and comments on the efficiency challenge in the IAP

We have reviewed Ofwat’s IAP Technical Appendix 2 – Securing cost efficiency, all the enhancement cost models and the deep dive assessments and provided a response on all the efficiency challenges included in the IAP.

We have provided additional evidence in relation to the enhancement efficiency challenge in Ofwat’s IAP and further details are included in the appendices.
Key additional issues that we would request are taken into account in the draft determination are summarised in the following paragraphs, with the quantum shown in the subsequent table:

**Deep dive assessments**

We provide additional evidence, such as further justification of need, options studies and cost benchmarking in order that partial passes or fails in the deep dive assessments can be turned to passes. We have expanded the options appraisal evidence, which we hope will enable the 20% cost challenge to be removed. We have provided additional evidence, including new external benchmarking by cost consultants, in order to demonstrate that our cost estimates are efficient – this should enable the company specific efficiency challenge to be removed.

Details are included in the accompanying appendices.

**Output challenge**

In the IAP Ofwat have challenged the need for the scheme at West Huntspill sewage treatment works. We include a detailed justification of the need, options selection, cost estimate, and explanation of how customers are protected. We have commissioned an independent external engineering specialist report confirming the technical solution. In addition, the Environment Agency have written to us and Ofwat confirming the need for a major scheme at the site to improve its performance so that the bathing water quality at Burnham reaches the required standard.

Details are provided in *Appendix 4 – Protecting and enhancing the environment: Response to IAP.*

**IAP Enhancement cost models**

In some cases we think that the incorrect input variables have been used in the IAP cost modelling. For instance, for phosphorus removal Ofwat have not used the correct number of sites requiring improvement. In Appendix 4 we clarify the correct input parameters. As previously explained for some of the other cost models we query the robustness of the models and have provided suggestions on how they can be improved.

The quantum of the challenges in each category are summarised in Tables 3-7 and 3-8 below, along with our response and the actions that we suggest Ofwat to take in the draft determination. The values stated are the total proposed expenditure that Ofwat has not made adequate allowance for.

<table>
<thead>
<tr>
<th>Table 3-7 Summary of IAP cost challenge - wastewater</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IAP challenge</strong></td>
</tr>
<tr>
<td>Enhancement opex</td>
</tr>
</tbody>
</table>
### Table 3-8: Summary of IAP cost challenge - water

<table>
<thead>
<tr>
<th>IAP challenge</th>
<th>Our response</th>
<th>Value £m</th>
<th>Action required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhancement opex</td>
<td>We do not agree that it is feasible to absorb all the additional opex from the 5 year investment programme. We have provided some suggestions about potential implicit allowances with base costs for enhancement opex related to growth. In the appendices we have provided further information about enhancement opex related to new obligations and service improvements.</td>
<td>30.4</td>
<td>Assess opex in detail, including differentiating between opex driven by growth and opex driven by investment for new statutory obligations and service improvements.</td>
</tr>
<tr>
<td>Deep dive assessments</td>
<td>We have provided additional evidence that should allow the partial passes or fails to be turned to passes.</td>
<td>2.4</td>
<td>Review deep dive assessment using latest evidence.</td>
</tr>
<tr>
<td>Service improvement - Leakage reduction and supply interruptions improvements</td>
<td>We do not agree that it is feasible to deliver the service improvements within the funding allowed for base service. Improved service levels require additional funding.</td>
<td>27.0</td>
<td>Assess the business cases within our business plan, including the cost adjustment claims. Make a capex and associated opex allowance.</td>
</tr>
</tbody>
</table>
3.3.6 **Board assurance**

Assurance for the revised business plan and response to the IAP is covered in section 7 and Appendix 17.

The board has provided explicit assurance regarding our investment proposals and costs, specifically that:

- large investment proposals have been made following a proper assessment of options. Our only large investment proposal was approved in terms of its optioneering at PR14 (the completion of the Trym tunnel). We are seeking funding for the remainder of this investment in the coming period which Ofwat has accepted in its IAP. Nevertheless, for completeness we have had external assurance on this project
- for investment proposals where we are challenging the sufficiency of Ofwat’s initial assessment of costs as detailed in this document. The board assures that:
  - these proposals are robust, efficient and deliverable
  - a proper assessment of options has taken place and the option chosen is best for customers
  - there is a proven need for the outcome delivered and there is protection for customers if the outcome is not delivered.

**Suggested action for Ofwat**

To take into account the additional board assurance given about our investment proposals.

3.4 **Base costs**

Ofwat’s approach to assessing the efficient level of base costs is a marked improvement on previous approaches. Ofwat’s excellent engagement with the industry has helped to create a good set of models, which incorporate consideration of the complexities surrounding density and relatedly the number of assets that requires. This has enabled us to confirm that, subject to the modelling approach remaining the same, that we can withdraw our cost adjustment claim for the number of non-infrastructure water supply assets.

We have also revised our plan with respect to business rates as having reviewed the latest information we accept that Ofwat’s estimates are closer to the P50 expectation than our own estimates of September 2018. This reduces our plan expenditure by £17m.

We have already explained that we do not believe that the base cost models include sufficient allowance for enhancement opex and for future upper quartile levels of service. We note here that at c.£100m the impact for these disallowed costs on our plan is the equivalent of a 2.2% per year productivity challenge.

Our remaining concern on base costs is that the published overall frontier shift of CPIH - 1.5% (where RPE’s are assumed to be zero and productivity gains are assumed to be 1.5% per annum) is in our view not in line with the evidence or consistent with other economic parameters contained within the methodology such as the cost of capital.
3.4.1 Business rates

We have revised our plan with respect to business rates as having reviewed the latest information we accept that Ofwat’s estimates are closer to the P50 expectation than our own estimates of September 2018. This reduces our plan expenditure by £17m.

Suggested action for Ofwat

To note our acceptance of this cost challenge

3.4.2 Productivity gains

While we do not think that the evidence supports the level of frontier shift implied in Ofwat’s IAP we do acknowledge that:

• there is a need to show how the industry is continuing to deliver greater efficiency improvements for customers
• the assessment of the current efficiency frontier from which the shift is calculated cannot be completely precise and rightly in our view is set at the upper quartile level modelled rather that the least cost company.

In this context Ofwat’s proposed 1.5% annual productivity assumption in base costs is understandable and could be accepted as part of an “in the round” assessment of the financeability of our plan and the other parameters. This is despite it being well in excess of the levels of productivity improvement seen in the wider UK economy in recent years and of the forecasts made by expert bodies such as the OBR.

When presenting productivity targets Ofwat could also make use of additional stretch targets. This could mean recognising the 1.5% productivity improvement in the base cost allowance but publishing a potential for future stretch efficiency targets that would be shared with customers at a later date if they were to be achieved by companies.

While the additional stretch targets would not be applied to the base cost allowances they could be used by investors and stakeholder to challenge companies to deliver greater efficiencies that will benefit customers from 2025.

This approach would still place Ofwat’s base assumption at a level that is higher than regulatory precedent (which is broadly around 1% per year) and even more significantly above levels of productivity growth in the wider economy in recent years. It is therefore very stretching.

On that basis it is very important that Ofwat recalculates a separate assessment of the RPEs that companies can be expected to suffer to also be applied to base costs. This should be calculated on a consistent basis to the productivity growth assumption.

Suggested action for Ofwat

To note our acceptance of a 1.5% annual productivity challenge, subject to other economic parameters being set appropriately and in a consistent way.
3.4.3 Frontier shift

We draw here on additional evidence and analysis provided to us by two economic consultancies.

First Economics has published a paper which is provided as Appendix 16.

Its key conclusions are that Ofwat’s approach to frontier shift:
- takes a ‘pick’ and ‘mix’ approach in its analysis of RPEs and productivity growth, failing to recognise that if CPIH can be said to reflect a level of input price inflation in the wider economy by the same analysis CPIH also reflects a level of productivity improvement in the wider economy, it is therefore not consistent to discount input cost increases on the basis that they are substantially contained within CPIH while not also discounting the productivity improvements that are also inherent within it
- needs to take into account a much wider analysis of RPEs taking into account at least 80-90% of totex by value
- needs to take into account consensus/OBR/BEIS forecasts of input prices wherever possible
- needs to consider more explicitly the slowdown in the rates of productivity growth in the wider economy and the implications for the water company and its contractors.

We also commissioned a report and analysis from Economic Insight (EI) which is provided as Appendix 20.

EI note amongst other things that:
- Ofwat should take greater heed of their own consultant’s advice and place more weight on the use of gross output based measures of productivity improvement
- Ofwat should place greater weight on the productivity levels in the post financial crisis period if it is to be consistent with its evidence base on allowed equity returns
- discounting the impact of RPEs because they are in management control risks double counting any separate analysis of efficiency improvements that is applied
- discounting RPEs based on a materiality test, or because the historical wedge between CPIH and the factor is statistically different from zero over time risks underfunding companies’ efficient costs between 2020 to 2025

We accept the reasoning behind all of these conclusions. In each case they would imply that a lower level of frontier shift is applied to base costs.

For the reasons already stated however we are able to understand a 1.5% productivity challenge which would be acceptable as part of an “in the round” assessment of the financeability of our plan and the other economic parameters.

This includes in our view that RPEs will be materially more than zero compared to CPIH.

We note that an analysis of the rates of RPEs proposed by other WaSCs for their network+ business units (opex) in table App24A is c.1% with one company proposing zero and a number of companies proposing well above 2%.
We provided evidence in September 2018 (based on analysis completed earlier in the year by Economic Insight) that a reasonable central estimate would be materially above zero and we continue to be of that view. We will update our estimates based on recent evidence so that these could be available to help inform our views on your draft determination.

**Suggested action for Ofwat**

To reassess the allowance for RPEs in base costs in a way that is methodologically consistent with and coherent with that used for its expected productivity growth assumption. In doing so it should take into account a fuller range of input cost and using consensus forecasts for these wherever possible. The evidence provided to date suggests that this should be c.1% per year.

### 3.5 Retail costs

We continue to support your approach using econometrics to achieve a more robust assessment of relative efficiency in the residential retail price control. While we have some concerns with elements of your approach, we believe that ultimately the models deliver a reasonable assessment of current efficiency.

We consider that sensible approaches have been taken, in particular:

- formulating several different approaches and triangulating the results gives more credibility to the modelling results
- the selection of explanatory variables, while parsimonious, results in models that are well specified.
- the use of the upper quartile as the efficient benchmark is sound, as is the decision to not apply further frontier challenges.

#### 3.5.1 Modelling approach

We refer you to our response to your cost assessment consultation in May 2018 for our considerations on good-quality efficiency assessment in the residential retail price control, provided in our business plan as supporting document 8.03.C. We note in particular the requirement for:

- a model selection process that places suitable weight on the intuitive correctness of the cost drivers and not a sole focus on the statistical validity of the models
- the need to consider the economies of scale and scope when assessing residential retail efficiency
- the modelling of deprivation that uses cost drivers that are outside management control.

We believe that you have broadly achieved this in your modelling.

#### 3.5.2 Use of forecast costs only

We note that there is a significant discrepancy between the company rankings of costs historically and those based on forecasts. We believe the sole use of forecast costs in your models, without any reference to historical observed costs has no regulatory precedent, at
least for ongoing activities as opposed to new activities. We think that this, combined with the choice of the upper quartile benchmark may be problematic for two reasons:

- The very nature of forecasts will mean that some will be under-estimates.
- That given Ofwat’s methodology there is a possibility that some cost forecasts will be deliberately low.

Using these forecast upper quartile costs without any reference to observed cost performance therefore risks resulting in an unfinanceable residential retail price control which would not be a good outcome for customers.

Ofwat’s methodology neatly creates incentives to meet or exceed Ofwat’s expectations in all areas by offering financial rewards for an exceptional plan. Given the relatively low materiality of retail costs overall, this may have led to some companies offering undeliverable levels of retail cost reduction up to 2025 to meet that expectation at a relatively low cost. Equally the financial and reputational incentives to avoid the bottom “significant scrutiny” category were also high and a low cost way to avoid a poor mark in every category would be to target cost reductions in a lower value price control.

We considered whether this was any different to a company bidding for a contract and being outbid by a company that was treating the contract as a loss leader. We concluded that the difference between the two situations was in the moral hazard. In the first instance the outbid companies are disadvantaged only in that they have lost an opportunity to make profits. In this case however, all companies are to be funded against the forecasts of the loss-leading companies’ costs and therefore all companies may be exposed to losses as a consequence. All of this risk lands on the Appointee as there is no ability to share cost risk with customer in the retail price control although customers will be exposed to any consequences for service quality.

We note that for some companies (notably WoCs) retail costs are a greater proportion of their overall costs which implies a wider level of exposure.

We also note that given the continued potential for greater competition in this area that it would not be appropriate for this area of the value-chain to become un-financeable in its own right.

3.5.3 Non-bad debt cost models

We are concerned that the non-bad debt cost models lack robustness. We have demonstrated in our modelling with Economic Insight, in conjunction with Bristol Water, that robust non-bad debt retail cost modelling is achievable. We refer you to our business plan supporting document 8.03.A for the full Economic Insight report.

3.5.4 Translation into revenue allowances

We note that Ofwat has yet to publish revenue allowances for the domestic retail price control but we support the use of unit revenue allowances for different classes of customer with an end-of period true up.
Suggested action for Ofwat:
To avoid the risks above we suggest that Ofwat’s cost allowance for retail applies greater weight to historical efficiency analysis in its determination. Alternatively, it could seek to benchmark against forecast average costs rather than the forecast upper quartile.

3.6 Cost adjustment claims

In September 2018 we submitted six cost adjustment claims: four for wastewater and two for water. Three of the claims related to the additional costs we require to meet enhanced service levels for common performance commitments.

We have reviewed the assessment of the cost adjustment claims in the IAP. We have provided additional evidence that should enable the partial passes and fails to be turned to passes, as summarised in Table 3-9 below.

Table 3-9: Summary of IAP cost adjustment claims

<table>
<thead>
<tr>
<th>Claim</th>
<th>Our response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of North Bristol sewerage strategy (Trym tunnel)</td>
<td>Ofwat substantially accepted our proposals in its IAP so we are making no additional claim for expenditure in excess of the IAP allowance for this item.</td>
</tr>
<tr>
<td>Sewage treatment works capacity programme</td>
<td>This claim is integral to delivery of our capacity programme and ensuring 100% compliance with discharge permits and we believe the IAP has not fully covered the required level of expenditure. We provide additional evidence to support the claim in Appendix 10.</td>
</tr>
<tr>
<td>Number of non-infrastructure water supply assets</td>
<td>IAP base cost allowances modelling allows for density factors and numbers of assets. Subject to Ofwat’s modelling approach remaining the same we have withdrawn this claim.</td>
</tr>
<tr>
<td>Reducing leakage by a further 15%</td>
<td>Additional funding is required to deliver the step-change reduction in leakage (capex and opex). We have evidenced in this document that the base cost modelling approach does not make sufficient allowance. We also provide additional evidence to support the claim in Appendix 5.</td>
</tr>
<tr>
<td>Pollution reduction strategy</td>
<td>Additional funding above the base cost modelling assumption is required in order for us to deliver the reduction in pollutions from our current upper quartile performance, although as noted above we have reduced the claim amount due to the revision to the target. It is not feasible to absorb the additional cost (capex and opex) within our base service cost allowances. We have shown in this document our reasoning and provide additional evidence to support the claim in Appendix 4.</td>
</tr>
<tr>
<td>Flooding programme</td>
<td>Additional funding is required in order for us to deliver the reduction in sewer flooding incidents from the current frontier performance, and the new obligation to prepare Drainage and Wastewater Management plans. It is not feasible to absorb the additional cost (capex and opex) within our base service cost allowances. We have explained in this document and we provide additional evidence to support the claim in Appendix 7.</td>
</tr>
</tbody>
</table>

Suggested action for Ofwat
To note our views about the current status of the cost adjustment claims first submitted in May 2018 and consider adjustments to the cost allowances.
4. Delivering outcomes for customers

This section covers:
- Ofwat’s outcomes approach
- The changes we have made to our performance commitments (PCs) and outcome delivery incentives (ODIs)
- Additional evidence and responses to actions

4.1 Summary of changes made

Table 4-1 Summary of changes

<table>
<thead>
<tr>
<th>Change made</th>
<th>Where to find additional information</th>
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<tbody>
<tr>
<td>Actions that we are accepting</td>
<td>Section 4.3</td>
</tr>
<tr>
<td>New or altered performance commitments</td>
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<td>Stretch</td>
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<td>ODI type</td>
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<td>Section 4.8 Appendix 5 App 1 Appendix 3</td>
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<tr>
<td>Enhanced ODIs</td>
<td>Section 4.9</td>
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<tr>
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<td>Overall ODI package</td>
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</tr>
</tbody>
</table>
Undertaken a further piece of research on ERI specifically that confirms customers are willing to pay for rewards in excess of those we have proposed for ERI

| ODI timing | Further evidence provided on lead pipe ODI timing | Section 4.11 Business plan appendix 3.3
| Asset health ODI package | Further evidence provided on outperformance incentives and balance of asset health within the overall package. | Section 4.12
| Event Risk Index (ERI) | Caps and collars introduced, deadbands removed. Further evidence provided in support of stretch, ODI type and ODI rate. | Section 4.13 Appendix 21

### 4.2 Overview

Our submission in September 2018 followed, and was based on, a significant amount of customer research and engagement for which we have been commended. The initial assessment of our plan noted that our research is high quality and convincing with evidence of ambition and innovation. Insofar as it relates to delivering outcomes, however, the assessment finds insufficient evidence of a high-quality approach in a number of areas.

We accept some minor changes as proposed by Ofwat where there is new information available and we can make a justifiable change whilst still following the original approach. In most areas, we are sticking to our plan noting that it is supported by quality customer engagement, provides a good balance of risk and reward, and has extremely high levels of acceptability (96%).

Two specific issues identified relate to evidence of customer support for our largest value performance commitment (PC), Event Risk Index (ERI), and the impact of outcome delivery incentives (ODIs) in customer acceptability testing. We have addressed both points with further customer research. The evidence confirms that customers support our original plans and so we are not proposing any material changes here either. We do, however, offer extra customer protection from unexpected and significant outperformance on ERI.

Our board supports the need for strong positive incentives in the regulatory framework. We have been pleased therefore that Ofwat has often referenced the availability of incentive payments under ODIs as part of its continued commitment to incentive-based regulation. Ofwat’s own consultation documents back as far as November 2016 have evidenced that it is in the interests of consumers that positive ODI incentives are meaningful and that a symmetric approach is taken.

We agree with Ofwat when it said that

>“a strong additional benefit of the reward and penalty approach is that it is likely to deliver more innovation and a frontier shift in service quality for customers. By a frontier shift we mean a significant step change (a shift) in the quality of service provided by the best (frontier) companies in the water
sector. The symmetric approach to ODIs reveals new information…… we can use to challenge companies to set more stretching commitments in future”\(^4\)

As a comparatively high performing company our September plan proposed a wide and balanced range of incentives on ODIs by applying positive incentive payments across a wide range of measures, limiting the use of caps and collars and proposing enhanced rewards and penalties for some measures to ensure that the power and balance of incentives is maintained.

We are concerned therefore that Ofwat’s challenges to our plan ODIs, if followed through, will result in a much narrower range of potential incentives around ODIs that are substantially skewed to the downside as shown in the following chart. Note that this is even before accounting for the cost allowance issues considered above which would add a substantial additional downwards skew.

While this is not our proposed or preferred option we have therefore provided alongside our response the caps, collars and deadbands on our ODIs that we would recommend are applied in the event that Ofwat:

- imposes reward caps, or
- does not substantively accept our case on cost allowances.

These should be applied at the P10 and P90 levels to:

- sewer flooding (internal/external)
- pollution incidents
- leakage
- lead pipe replacement
- supply interruptions
- mains bursts
- Compliance Risk Index (CRI)

We accept all the specific actions that relate to targets, collars and deadbands for common measures. These are listed below.

\(^4\) Ofwat (November 2016) A consultation on the outcomes framework for PR19 pp.7-8
4.3 Actions that we are accepting

This section provides a list of actions that we are accepting in full and require no further supporting evidence.

WSX.OC.15 – CRI deadband and collar
WSX.OC.16 – Customer sewer flooding (internal) common target levels
WSX.OC.19 – Water supply interruptions common target levels
WSX.OC.30 – Wastewater pollution incidents – category 1-3 common target levels
WSX.OC.50 – Working with communities to improve bathing waters. We have removed the 1.2 multiplier on our outperformance incentive rates for this PC
WSX.OC.55 – Working with catchment partners to improve natural capital. We have removed the 1.2 multiplier on our outperformance incentive rates for this PC.

4.4 New or altered performance commitment definitions

We have accepted Ofwat’s proposal for a common, non-financial Priority Services Register (PSR) PC, including taste and odour in our water quality customer contact PC and a value for money PC.

4.4.1 Priority services register (PSR)

We have set a target of 7% for PSR reach, alongside a commitment to check at least 90% of our PSR data every 2 years. This will be a reputational measure.

4.4.2 Water quality customer contacts

As required in action WSX.OC.05, we have included taste and odour, as well as appearance, in our water quality customer contacts PC. We have also updated our incentive rates.

4.4.3 Value for money

As required, we are continuing our PR14 value for money PC with a reputational ODI and full detail available in Appendix 3.

The remainder of this chapter summarises our response to Ofwat’s queries that we are not accepting in full and should be read in conjunction with Appendix 1 – Completed action tracker and Appendix 3 – Updated PC detail document.

4.5 Stretch

4.5.1 WSX.OC.22 – Water mains bursts

We have commissioned an independent industry leading leakage and asset management consultant (RPS) to review the data on the relationship between mains bursts and leakage reduction. Their report, which is included as Appendix 14 of our response to the IAP, provides compelling evidence that increased active leakage control to achieve a 15% reduction in leakage will significantly increase the number of mains bursts. The estimated impact of a 15% reduction in leakage is 10 bursts/1000km/year.

Hence, against the background of an upward pressure on the number of mains bursts due to
increased active leakage control, our proposal for slight reduction in the mains bursts target over the five years is stretching.

We note that some companies have submitted step changes (both up and down) and note that all data should be submitted according to the new reporting guidance. For those companies that have submitted step changes downwards in the number of mains bursts they are targeting, we cannot see any evidence in their plans of how this will be achieved so have some concerns about the validity of these targets and, in fact, have concerns about the consistency of reporting more generally.

Our customer research shows that a reduction from our target would not be cost beneficial. However, we have provided significant customer protection using an underperformance only ODI, which would trigger the enhanced multiplier immediately should we fail our target.

4.5.2 WSX.OC.26 – Sewer collapses

Sewer collapse targets were originally set against a concept of serviceability – that is, a level at which the service requirements of the sewer are met. There is no reason to suggest that these levels have changed or should be reducing. Any performance below this level implies that our sewerage network is performing its intended use and performance in individual years would be expected to vary depending on a number of factors. We are, therefore, keeping our proposal to remain stable. The slight reduction in recent numbers of collapses is because the weather in recent years has been drier than the previous years, so fewer partial collapses have been reactivity identified. In the event of a wetter year, we would expect these numbers to revert to closer to the target level.

Further, should a sewer fail to a level that causes a flooding incident or a pollution incident, we have further customer protection in place through the respective PCs.

Similarly to mains bursts, we note that there is strong evidence of a risk of poor comparability across the industry. This can be seen in both the step changes proposed by companies and the RAG rating for companies’ compliance with the new guidance.

WaterUK has been conducting work on ensuring companies can comply with the guidance and minimising the risk of misinterpretation or ambiguity. Throughout this process, it became clear that many companies would need to revise their values. However, this was not the case for Wessex Water as we have consistently interpreted the guidance as it was intended. We suggest that caution is taken with the numbers provided by other companies and that comparisons should not be taken at face value.

The new proposal for consistent reporting, that we believe is similar to the way some companies are already reporting, would reduce our forecast by c.80%, demonstrating the volatility across the industry and reinforcing the idea that there is a risk in making these comparisons.

Our customer research shows that a reduction from our target would not be cost beneficial. However, we have provided significant customer protection using an underperformance only ODI, which would trigger the enhanced multiplier immediately should we fail our target.
4.5.3  WSX.OC.39 – Void sites

**Summary**
We provide additional evidence to support the target for our void performance commitment. We demonstrate:

- our historical and current efficiency relative to our peers.
- our performance relative to our peers against the levels of vacant properties recorded for council tax purposes.

We then forecast company void performance up to 2025 using business plan data. We set our performance at the upper quartile position of 2.0% in 2025 for every year over the 2020-25 period.

**Historical and current performance**
Our void performance has long been at, or better than, the upper quartile of water industry performance. We provide a summary of void performance in the table below.

<table>
<thead>
<tr>
<th>Table 4-2: Void performance summary 2015/16 to 2017/18</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year</strong></td>
</tr>
<tr>
<td>Wessex</td>
</tr>
<tr>
<td>Frontier</td>
</tr>
<tr>
<td>Upper quartile</td>
</tr>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Lower quartile</td>
</tr>
<tr>
<td>Maximum</td>
</tr>
</tbody>
</table>

**Comparing performance to external sectors**
We have compared industry void performance to council tax vacant property statistics. Wessex is one of the few water companies to have fewer void properties than vacant properties for council tax, evidenced by the graph below.

**Figure 4-2: Water company void performance vs council tax vacant rates**
According to council tax data, Wessex Water should have the 13th lowest level of void properties, but its actual performance is at the 5th lowest level. After South West Water this is the best performance in the industry. Most companies perform worse than the council tax data, suggesting they can more efficiently reduce voids in their areas.

**Forecast performance up to 2025**

We have forecast 2024/25 void performance for all companies using business plan data to inform the development of a suitable target.

- Where other companies have proposed a performance level concerning the total number of voids as an absolute number of a percentage, we have used this as the forecast 2024/25 performance level.
- Where other companies have not proposed void performance levels we have estimated void performance using business plan tables WS3 and WWS3. This is not fully accurate as we have been required to compare average year billed properties with year-end connected properties.

The table below shows all companies' proposed and estimated void performance levels.

**Table 4-3: Void performance levels 2024/25**

<table>
<thead>
<tr>
<th>PC target 2024/25</th>
<th>Estimated 2024/25 performance from WS3 &amp; WWS3</th>
<th>Combined 2024/25 performance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANG</td>
<td>3.1%</td>
<td>3.1%</td>
</tr>
<tr>
<td>NWL</td>
<td>4.4%</td>
<td>4.4%</td>
</tr>
<tr>
<td>SRN</td>
<td>2.1%</td>
<td>2.1%</td>
</tr>
<tr>
<td>SVT</td>
<td>N/A</td>
<td>3.0%</td>
</tr>
<tr>
<td>SWT</td>
<td>0.9%</td>
<td>0.9%</td>
</tr>
<tr>
<td>TMS</td>
<td>3.6%</td>
<td>3.6%</td>
</tr>
<tr>
<td>UUW</td>
<td>N/A</td>
<td>6.4%</td>
</tr>
<tr>
<td>WSH</td>
<td>3.5%</td>
<td>3.5%</td>
</tr>
<tr>
<td>WSX</td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>YKY</td>
<td>N/A</td>
<td>4.1%</td>
</tr>
<tr>
<td>AFW</td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>BRL</td>
<td>1.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>HFD</td>
<td>N/A</td>
<td>1.9%</td>
</tr>
<tr>
<td>PRT</td>
<td>N/A</td>
<td>2.3%</td>
</tr>
<tr>
<td>SES</td>
<td>2.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>SEW</td>
<td>2.2%</td>
<td>2.2%</td>
</tr>
<tr>
<td>SSC</td>
<td>N/A</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

We have then calculated summary statistics from this distribution, shown in the table below.

**Table 4-4: Summary statistics of 2024/25 void performance**

<table>
<thead>
<tr>
<th></th>
<th>2024/25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontier</td>
<td>0.9%</td>
</tr>
<tr>
<td>Upper quartile</td>
<td>2.0%</td>
</tr>
</tbody>
</table>
As in our original business plan, we propose to set our performance commitment at 2.0%: the 2024/25 upper quartile of the industry. We will achieve this every year of the 2020-25 period.

### 4.5.4 WSX.OC.53 – Working with catchment partners to improve natural capital

We have corrected our profile such that our proposed performance commitment level is as follows:

<table>
<thead>
<tr>
<th>PC</th>
<th>No. of schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-21</td>
<td>29</td>
</tr>
<tr>
<td>2021-22</td>
<td>37</td>
</tr>
<tr>
<td>2022-23</td>
<td>37</td>
</tr>
<tr>
<td>2023-24</td>
<td>37</td>
</tr>
<tr>
<td>2024-25</td>
<td>37</td>
</tr>
</tbody>
</table>

### 4.6 ODI type

#### 4.6.1 WSX.OC.12, WSX.OC.37, WSX.OC.38, WSX.OC.43, WSX.OC.45, and WSX.OC.54 - Use of outperformance payments

There are six actions that ask us to justify the use of an outperformance payment. For all these actions we note from our range of customer research in chapter 1 of our business plan submission that customers support the concept of outperformance payments.

Our research by Turquoise in Appendix 01.01.Y of our business plan shows that “most people are open to the idea of rewards and penalties in general”. It is important to note that where this piece of research goes into detail on specific PCs, the option marked is that chosen by the majority of what was a small number of groups of customers in a qualitative piece of research. Whilst the overall conclusions are robust, one should not place weight on individual PC choices as the process was not statistically valid and was intended only to provide an indicative view of the general concepts. We do not, therefore, expect Ofwat to conclude that we do not have customer support for outperformance payments on any PCs as a result of this particular study.

Rather, this and other pieces of research show that customers do support the concept of outperformance and underperformance payments across the board.

We commissioned Turquoise to undertake quantitative research on our behalf that aimed to test on a quantitative basis:

- the level of support for outperformance payments on our bespoke performance commitments, including our ERI performance commitment
- the level of support for the overall range of incentive payments in our plan.

The research presents customers with groupings of performance commitments together with ranges of potential bill impacts of out and underperformance that could apply at the group level.
Customers are asked to show support or otherwise for the levels shown and can also then remove individual measures from consideration for outperformance payments.

The research showed that:

- support for outperformance payments on each grouping tested was between 66% and 69%
- we can infer that support for outperformance payments more generally is in that range
- there is no single performance commitment that stands out to customers as one that shouldn’t carry a potential outperformance payment
- a minority appear to be not supportive of any outperformance payments and this appears to be driven by attitudes to the water industry and the water company rather than affordability.

We can therefore be confident that the majority of customers support the availability of outperformance payments on all the measures tested.

We are therefore keeping outperformance payments on these six PCs, which include:

- volume of water saved by efficiency engagement
- total bill reduction to customers on social tariffs
- successful applications for assistance received by the independent advice sector / third parties
- number of children / students engaged
- tackling water quality in the home and in the work place
- working with catchment partners to improve natural capital.

Finally, we are conducting extra research that we hope will provide further evidence that our ODIs provide benefits to customers. We believe that, in the main, this is clear from our original business plan submission (in particular, we direct the reader to Appendix 03.01.A, which is updated as Appendix 3 of this document) but we expect our additional research to support our position.

4.6.2 WSX.OC.40 – Void sites

Summary

We demonstrate that the incentive rate payments are significantly lower than the reduced bills from billing additional customers. We demonstrate that the company has no incentive not to ensure the timely registration of voids.

Reduced bills for customers

It is worth recognising first the slightly odd context of a water company operating within Ofwat’s system of revenue controls: the natural incentive that commercial companies in normal markets have to bill their customers is lost because the revenue control means that increases in wholesale revenue from some properties need to be offset by lower wholesale charges. It is within this special context that the case for some form of targeted incentive scheme on void properties should be seen.
We outline in the section 3.5.6 that a reduction in the void rate will benefit customers in that the reduction from an increase in billed properties greatly outweighs the incentive payment. A decrease in voids above an already upper quartile level of performance will reduce bills by 4 times the payment (a reduction in the bill of £0.00025 per customer compared to an increase of £0.00005 per customer from an incentive payment).

**Already high levels of performance**

The performance commitment at the P50 rate does not include any incentive payment; therefore, the business is already committing to an improved level of performance at the 2024/25 upper quartile for the whole of the 2020-25 period at zero additional cost to customers.

**Ensuring no perverse incentives**

The performance incentive has been developed specifically to give transparent incentives to ensure the business minimises its void levels in an effective and consistent manner, gaining reasonable rewards for outperformance above the upper quartile and penalties for failure.

The development of an annual and consistent incentive payment and a consistent target ensures the business will ensure a continued focus on minimising the number of void properties throughout the entirety of the 2020-25 period and not be incentivised to load its effort at the beginning or end of the period.

Using the metric of the number of voids as a % of connected properties ensures that the performance commitment is not impacted by any under- or over-forecasting of property numbers.

**4.6.3 WSX.OC.42 – Gap sites**

**Summary**

Having considered Ofwat's feedback, and considering customers' views in this area, we have formulated a reward-only financial incentive to incentivise us and third parties to find gap sites in our region.

**Customers’ views**

We considered how our levels of performance on gap sites would affect the outcome we achieve for our customers. We identified that the key area of impact was value for money and customer bills. Our research consistently demonstrates that one of customers’ most important priorities is value for money. Ensuring that the maximum number of properties are billed in our area ensures that other customers are not paying for others' unbilled use, and increases value for money.

**Incentive rate**

We have therefore formulated a reward only performance commitment to incentivise the achievement of increased finding of gap sites in our area. It is similar in its application to other companies' proposals.
We consider that the ODI should reflect the reduction in customer bills that would result from an increase in the identification of gap sites. For every additional gap site found, other customers’ bills will reduce by the additional amount billed to the newly charged property.

It is reasonable to assume that gap sites are unlikely to be high-volume customers, given the extensive flow monitoring on our network. Business customers are therefore likely to be low-using in character. We can therefore assume that the magnitude of a business customer’s bill will be similar to that of a household.

The average household bill in the Wessex Water area over 2020-25 is £320 when accounting for the fact that half of our customers are only billed for sewerage. We propose this incentive to apply for every property above the target over 2020-25.

We have compared the magnitude of the incentive to other companies with similar schemes. Our proposals are in line with them.

**P10 and P90 performance levels**
While we do have historical data available (over 2012/13 to 2017/18) to calculate upper and lower bounds in performance, this does not vary enough to provide accurate performance metrics.

We therefore propose P10 and P90 levels of performance at 50% and 200% of the P50 performance levels respectively. It is possible that, as the business retail market develops and if financial incentives prove effective, that more gaps sites will be found.

<table>
<thead>
<tr>
<th>Table 4-6: Performance levels 2020-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance (nr gap sites found per yr)</td>
</tr>
<tr>
<td>P10</td>
</tr>
<tr>
<td>P50</td>
</tr>
<tr>
<td>P90</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4-7: Total reward levels, 2020-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reward (£m)</td>
</tr>
<tr>
<td>P10</td>
</tr>
<tr>
<td>P50</td>
</tr>
<tr>
<td>P90</td>
</tr>
</tbody>
</table>

**4.6.4 WSX.OC.49 – Natural capital: improve Sites of Special Scientific Interest (SSSI)**

As in section 4.6.1, we believe our existing research supports the use of an outperformance payment here and we will be keeping it in place.

We have better defined outperformance for this measure. It is less focussed on delivering agreed actions earlier but will be centred around delivering more robust actions on the ground, over and above what has been agreed with NE or the Catchment Panel. This might
include delivering specific actions on our tenanted SSSI landholding, which would usually be the responsibility of the tenant rather than Wessex Water.

The action plan for delivery will be agreed for the full five years in advance with the Catchment Panel. Annually, the Panel will review, and sign of the actions completed within the year and those proposed for the following year. This recognises that there might be slight adjustments due to buying/selling land, change of tenancy agreements or weather conditions which might impact the timing of proposed actions. There is little scope for re-profiling through this process, or outperformance through the advancement of a considerable number of actions.

It should also be noted that through the WINEP we have no investigations or investment on our terrestrial SSSI landholding which is the focus of this PC. Any investment which we have where there is a SSSI driver relates to phosphorus removal, where STW discharges are thought to be impacting aquatic SSSI which are outside our ownership. Therefore, our investment programme will have no impact on this PC.

4.6.5 **WSX.OC.50 – Working with communities to improve bathing waters**

The PC detail has been updated to highlight the role of the Catchment Panel in agreeing the delivery programme. The Catchment Panel will agree and sign-off the bathing waters to be targeted each year and the activities that will be undertaken. This provides an independent view of the appropriateness of any re-profiling, including that it benefits customers and the environment. Delivery will be undertaken by a third party/parties and so will be constrained by resources, making significant outperformance difficult.

4.6.6 **WSX.OC.56 – Reducing frequent spilling overflows (non-WINEP)**

This PC represents improvements that we would deliver above and beyond our statutory obligations and we believe, therefore, that Ofwat has misinterpreted the concept of the PC. We suggest, therefore, that the first part of the concern is invalid.

These schemes share the same cost benefit analysis as the FSOs in the WINEP and we can therefore confirm that these improvements would be in customers' interests should they take place. They also, by definition, provide long-term benefits that will be enjoyed by current and future customers.

Further, customers are protected against inefficient delivery by our performance commitment and associated ODI that provides only the efficient cost for delivery.

4.6.7 **WSX.OC.57 – Km of river improved (non-WINEP)**

This PC clearly needs to have an outperformance only ODI as the target is zero. We cannot improve negative km of river and so could not incur underperformance payments. The improvements are not mandatory and would only be carried out if they were cost beneficial to customers.

Further, we have customer protection against underperformance of our statutory requirements through our requirement to deliver the WINEP.
Finally, we have received a significant amount of stakeholder support, primarily from local councils in our region, for this measure with full details available in Appendix 18.

4.7 ODI rate

4.7.1 Response to Ofwat’s three challenges on ODI rates

Ofwat set out three challenges for additional information in Technical Appendix 1 of the IAP. We address these points below.

1. Appendix 19 – link between customer research and performance commitment targets, shows the performance increments/decrements tested with customers and how these relate to the plausible range of performance set out in our business plan.

The clear majority of our performance is either within, or very close to, the range of performance tested with customers. Two examples of our comparisons are below and it can be seen that there is very limited risk that we would extrapolate larger outperformance incentive rates across a tail of willingness to pay that has not been tested with customers.

Figure 4-3: Average 2020-25 P10, P50 and P90 levels against our customers’ preferences

2. Willingness to pay values are calculated on performance increments only, and as set out in Appendix 3.2 of our business plan submission using Supporting Document 3.2.A.

3. We undertook a number of different research methodologies including:
   a. MaxDiff, which allocates valuations from a package level to attribute level as part of the methodology
   b. Sliders and online games that assessed individual service attributes, presented the total package value to customers and allowed them to update individual preferences to adjust their package value, and
   c. Research that looked solely at individual attribute level
The outputs of these were then triangulated, leaving us with individual service attribute valuations. Given that, for the majority of our research and the vast majority of the weighting in our triangulation is scaled as part of the research, we do not feel it is necessary or appropriate to do any further scaling after this point.

Full details of all our research and associated findings are available as appendices to our business plan. In addition, to ensure that the overall package size is appropriate to customers, we have commissioned further research on this as part of our IAP response.

Our additional customer research by Turquoise (detailed in section 2.3) showed, on ODI rates, that:

- while there is a drop off in support at the higher levels of outperformance payment, the fall is inelastic with bill size and therefore a reduction in the value of payments is unlikely to increase support a great deal
- the average acceptable level of payment was c.£21 and the market researchers note that, given the high level of acceptability for the maximum level available, the data suggests there may be potential to increase the level of performance payments.

The average level of acceptability of c.£21 is well above the expected “likely best-case” implied by our ODI package (i.e. the P90 calculation of our ODI package modelled on a probabilistic basis is c.£15).

We therefore consider that we have good support for the approach given that we have support for outperformance payments at the true likely maximum aggregate level.

We note that £21 is below the additive P90 calculation of our ODI package of c.£30 the market research however we need also to consider that:

- scaling down the level of reward package will reduce the true likely best case well below the level customers have shown support for – reducing these incentives is therefore not in customers’ interests.
- the market research agency themselves note that the data suggests that £21 may be an underestimate
- that the already complex nature of the research made it difficult to describe in detail what customers would be getting for their money, in our view this is likely to suppress the level of support given
- we have proposed to limit in-year performance payments to 2% of RORE and to consider alongside the WWP whether any payments due above that value were the result of fortuitous events before proposing an RCV adjustment in 2025.
- £30 is well beyond the true likely best case.

We have also already taken steps in our plan to help address the concerns of the minority of customers about outperformance payments in general by committing to 20% of net rewards earned being invested back into the community.

Turquoise’s full findings of this research are shown as Appendix 22.
4.7.2 Where our proposed rates fall outside the range proposed by Ofwat

This section, read alongside section 4.7.1, covers queries WSX.OC.07 and WSX.OC.09, and most of WSX.OC.17, 20, 23, 25, 27, 29, 31, and 47, each of which also has more information in section 4.7.4 to 4.7.6.

Some of our ODI rates fall outside the arbitrary ranges proposed by Ofwat. The evidence suggests that, on balance, using our own incentive rates based on our customer research is more likely to be reflective of our own customers’ views and, therefore, in our own customers’ interests.

We disagree with Ofwat’s approach in this regard as it has provided no evidence to explain how or why it has chosen its ‘reasonable ranges’ for each ODI rate. Our customer research and triangulation has been widely praised and we are very confident that we have provided ODI rates that accurately reflect customer preferences.

It is important to ensure that the quality of research undertaken by different companies is high before assessing ‘reasonable ranges’. There should be clear and transparent explanations for removing companies from the comparison and for choosing ranges around the mean within which companies might be expected to fall. There should be a consistent approach that is well evidenced and supported by recognised good practice.

Our values are within – or are very close to – Ofwat’s ‘reasonable ranges’ in all cases except unplanned outage, which we explain further below. As a result, we are not changing any of our proposed ODI rates.

On unplanned outage, we are very clear that the concept behind this performance commitment is to protect customers from issues relating to unexpected issues at treatment works. However, as a result of our resilient approach to water supply, almost no customer would experience any impact should this happen in our region. As a result, it would be wholly inappropriate for us to fall within the range of other companies who, most likely, use a valuation relating to loss of supply. Our valuation is clearly explained in Appendix 3 and, in summary, considers the marginal cost of treating water in our most expensive works compared to treating it in our cheapest works. Even this is almost certainly an overestimate as it is incredibly unlikely that our cheapest works goes out of service and has to be supplemented by our most expensive works. Rather, it is likely to net out at zero on the basis of probability.

4.7.3 WSX.OC.13 – Volume of water saved by efficiency engagement

To ensure there is no chance of double counting outperformance with improvements in PCC, we are reducing our outperformance incentive rate on PCC by exactly the value of the outperformance incentive rate on volume of water saved by efficiency engagement.

4.7.4 WSX.OC.14 – Compliance Risk Index (CRI)

Ofwat asks us to explain and evidence how our proposed ODI rate for CRI is coherent with the rates proposed for other asset health PCs. We do not believe this is a valid comparison
as CRI is a reflection of much more than our asset health. Asset health, in and of itself, has almost no direct impact on customers and is therefore not an outcome but an input. It is true that poor asset health could lead to high CRI scores, but so could a vast number of other input issues. CRI is a measure of water quality, which all our customer research shows that customers value highly.

4.7.5 WSX.OC.20 – Water supply interruptions

The outperformance payment is based on the Ofwat standard calculation. However, the underperformance payment cannot be calculated using the standard methodology as to achieve the required industry upper quartile performance, the investment is not cost-beneficial. To ensure that customers are protected we have set the incentive rate at the maximum of the annualised marginal costs and the willingness to pay. This means that whatever the outcome, customers are protected against the worst case scenario.

4.7.6 WSX.OC.41 – Void sites

The proposed incentive rate of £59k per 0.1% of improvement or deterioration in performance relative to the P50 position recovers the cost of finding void properties and is significantly less than the benefit to other customers’ bills from the increased billing of previously void properties.

**Calculation of incentive rate**

We have calculated the incentive rate based on recovering some of the additional costs of moving to a level of performance above the upper quartile of void performance, while at the same time ensuring that any reward is proportionate relative to the reduction in customer bills as a result of billing previously void properties.

It is difficult to estimate the average cost of bringing a previously void property onto charge. Our external liaison team will generally visit a property to check whether the property is occupied. We have used the average cost of a single property visit from our external liaison team plus associated scheduling to inform a suitable incentive payment. This value is £58.80 per visit.

We have then used this average cost to inform the likely cost of achieving a lower level of voids. A reduction in voids of 0.1% means billing approximately 1,000 additional properties. This results in a proposed incentive rate of £59,000 per 0.1% of connected properties.

**Comparison of incentive payment to bill reduction**

A reduction in the void rate will mean that additional properties are being billed, so the revenue requirement will be shared among a larger number of customers, reducing bills. Conversely an incentive payment will increase customers’ bills.

The average Wessex Water bill across the region is £320 when accounting for the fact that half of our customers are only billed for sewerage. A simple calculation of the reduction in other customers’ bills for every newly billed property demonstrates that the incentive payment is much less than the reduction in voids.
Table 4-8: Change in customer bills from finding voids

<table>
<thead>
<tr>
<th></th>
<th>Cost per property</th>
<th>Change in customer bill (£)</th>
<th>Change in customer bill (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional billing</td>
<td>-£320.00</td>
<td>-£0.00025</td>
<td>-0.00008%</td>
</tr>
<tr>
<td>Incentive payment</td>
<td>£58.80</td>
<td>£0.00005</td>
<td>0.00001%</td>
</tr>
<tr>
<td>Net impact</td>
<td>-£261.20</td>
<td>-£0.00020</td>
<td>-0.00006%</td>
</tr>
</tbody>
</table>

The additional billing significantly outweighs the incentive payment. For each additional property billed, customer bills will reduce by approximately £0.00020 or 0.00006%.

4.7.7 Coherence of incentive rates

We demonstrate below that our incentive rates are coherent because they do not double count either costs or WTP valuations. They should therefore provide appropriate customer protection. We have considered coherence of incentive rates across our outcomes to ensure that each customer priority area has sufficient incentives and that we would not create a perverse incentive by focusing on one area at the expense of others. This ensures that we are not ignoring performance on any key areas in the short term. We have set incentive rates to recover the amount paid by customers in this price control - this gives short term protection on measures. Where a decision to not undertake work would have a long-term impact, such as replacing lead pipes, we have proposed an additional RCV adjustment to ensure that customers are protected over the long term as well.

Table 4-9: Coherence of rates provided for water supply PCs (Actions WSX.OC.23, 25)

<table>
<thead>
<tr>
<th></th>
<th>P10 RoRE</th>
<th>P90 RoRE</th>
<th>Costs included</th>
<th>WTP included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains bursts</td>
<td>-£12m</td>
<td>£0m</td>
<td>We looked at what costs could be avoided if we let performance deteriorate</td>
<td>Triangulated WTP for sewer collapses</td>
</tr>
<tr>
<td>Unplanned outage</td>
<td>-£0m</td>
<td>£0m</td>
<td>Incentive rate set on the difference between short run marginal cost of water</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>between our most expensive and cheapest source</td>
<td></td>
</tr>
</tbody>
</table>

Table 4-10: Coherence of rates proposed for sewerage PCs (Actions WSX.OC.17, 27, 31, 47, 48)

<table>
<thead>
<tr>
<th></th>
<th>P10 RoRE</th>
<th>P90 RoRE</th>
<th>Costs included</th>
<th>WTP included</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal sewer flooding</td>
<td>-£49m</td>
<td>£48m</td>
<td>We allocated our sewer flooding cost adjustment claim between internal, external and risk to ensure no double counting of costs</td>
<td>Triangulated WTP for internal flooding</td>
</tr>
<tr>
<td>Sewer collapses</td>
<td>-£10m</td>
<td>£0m</td>
<td>We looked at what costs could be avoided if we let performance deteriorate</td>
<td>Triangulated WTP for sewer collapses</td>
</tr>
<tr>
<td>Pollution incidents</td>
<td>-£6m</td>
<td>£44m</td>
<td>Costs from our pollutions cost adjustment claim</td>
<td>Triangulated WTP for incidents</td>
</tr>
<tr>
<td>External sewer flooding</td>
<td>-£28m</td>
<td>£6m</td>
<td>We allocated our sewer flooding cost adjustment claim between internal, external and risk to ensure no double counting of costs</td>
<td>Triangulated WTP for external flooding</td>
</tr>
<tr>
<td>Sewer flooding risk</td>
<td>-£3m</td>
<td>£0m</td>
<td>We allocated our sewer flooding cost adjustment claim between</td>
<td>Triangulated WTP for sewer flooding risk</td>
</tr>
</tbody>
</table>
internal, external and risk to ensure no double counting of costs

Table 4-11: Coherence of rates proposed for river water quality PCs (Actions WSX.OC.29 and river water quality)

<table>
<thead>
<tr>
<th>P10 RoRE</th>
<th>P90 RoRE</th>
<th>Costs included</th>
<th>WTP included</th>
</tr>
</thead>
<tbody>
<tr>
<td>River water quality</td>
<td>-£3m</td>
<td>£8m We used costs from our WINEP lines relating to improving discharges into rivers</td>
<td>Triangulated WTP for river water quality</td>
</tr>
<tr>
<td>Treatment works compliance</td>
<td>-£1m</td>
<td>£0m We used the costs for our STW growth cost adjustment claim</td>
<td>None</td>
</tr>
</tbody>
</table>

4.8 Deadbands, caps and collars

4.8.1 WSX.OC.11 – Volume of water used per person

The IAP requests extra evidence in support of our deadbands on PCC. We discuss this in detail below and propose to keep our deadbands with a small variation to the underperformance deadband in 2020-21, which is changed from 131.9 to 134.3 to account for 2018-19 performance.

We also note that we are not proposing a cap on this ODI as Ofwat’s tests are not met (as discussed previously).

The three-year average does not fully normalise for the influence of weather on PCC

To derive the deadbands, we undertook Monte Carlo analysis using the PCC component of our demand forecasting model to derive a probabilistic forecast of PCC for the 2020/21 to 2024/25 period. Within this approach we ran the model 20,000 times, and in each iteration sampled from key model parameters that lead to forecast uncertainty. The result of this work showed that weather uncertainty was the largest factor affecting future uncertainty in PCC. We have since run the Monte Carlo analysis\(^5\), only sampling for the influence of the weather on PCC, the key influencing factor beyond the company’s control. Figures 4-4 and 4-5 show, respectively, the forecast uncertainty distributions of PCC for each individual year, and for the three-year average PCC. The three-year average of PCC reduces the variance in the distribution due to the influence of the weather; the standard deviation of weighted PCC for 2020/21 reduces from 5.11 litres/head/day to 2.97 litres/head/day. However, the three-year average does not remove the variance completely, and therefore does not fully remove the influence of the weather on PCC.

\(^5\) Further detail of the methodology can be found below in “Methodology for PCC Monte Carlo analysis”.

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Figure 4-4: PCC distribution, only sampling the influence of the weather – 1-year average – blue lines show P10 and P90 of the distributions.

Figure 4-5: PCC distribution, only sampling the influence of the weather – 3-year average – blue lines show P10 and P90 of the distributions.

A three-year average is not enough to remove the influence of the weather on demand. Figure 4-6 shows the distribution of uncertainty in PCC due to the weather, when PCC is averaged over larger windows of 10 and 20 years. For 10 and 20 year averages the standard deviation of PCC reduced to 1.53 litres/head/day and 1.10 litres/head/day but does not reduce completely.
Figure 4-6: box plot comparison of PCC variability due to the weather when averaged over successively longer time-windows*

*note that the means of all distributions have been set equal to remove the long-term trend influence, as each averaging window is larger, so more of the long-term trend (in the mean, not the variance) is captured. The averaging is undertaken for the forecast in 2038, to give sufficient history to derive an average for longer time-windows. This change is made for visual comparison and does not influence the variance of the distributions.

For the three-year average, only 53% of samples are within 2 l/h/d of the median. This means there is a 47% chance of being further than 2 l/h/d away from the true median PCC for normal year conditions due to the influence of the weather, when only averaging PCC over three years.

For the ten-year average 81% of samples are within 2 l/h/d of the median, and for the twenty-year average 93% of samples are within 2 l/h/d of the median. This means that even when averaging over twenty years, there is still a 7% chance of being greater than 2 l/h/d away from the true PCC under average conditions.

Climate is defined as the long-term average of the weather (e.g. average rainfall or sunshine hours for a specific area). In climate studies, weather is typically averaged over a 30-year window to derive a stable understanding of climate6, and therefore remove the influence of inter-annual variability in the weather when determining a stable average estimate of weather. This shows that for climatologists, a 30-year window is required to remove, and average over, the inter-annual variability in weather; a window that is ten times the length of the 3-year window.

The evidence presented above demonstrates that whilst a 3-year window does reduce the variance in demand as a result of the weather, it does not remove its influence completely.

6 https://www.nasa.gov/mission_pages/noaa-n/climate/climate_weather.html
This means that the PCC performance commitment can be failed simple because of the influence of the weather alone, if average weather over three years is drier than average. It is therefore appropriate to set deadbands for the PCC performance commitment to reduce this risk. The deadbands have been set at approximately the 25\textsuperscript{th} and 75\textsuperscript{th} Percentiles of distribution for the three-year average demand. This means that Wessex Water will still be taking half of the risk in PCC exceeding the deadband, simply because of natural variability in the weather alone.

Dry summer weather for 2018/19 significantly increases the risk of failing the 2020/21 3-year average PCC deadband, due to the weather alone.

Table 4-12 shows a comparison of weighted PCC calculated for 2018/19 compared to that forecast in WRMP19. As expected, given the heatwave conditions in the summer of 2018, the weighted average PCC is high, and close to that forecast for the dry year annual average PCC.

Table 4-12. Comparison of WRMP forecast PCC with calculated figure for 2018-19*

<table>
<thead>
<tr>
<th></th>
<th>Calculated</th>
<th>WRMP NYAA</th>
<th>WRMP DYAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measured PCC (l/h/d)</td>
<td>123.7</td>
<td>121.2</td>
<td>126.2</td>
</tr>
<tr>
<td>Unmeasured PCC (l/h/d)</td>
<td>159.5</td>
<td>144.5</td>
<td>153.8</td>
</tr>
<tr>
<td>Weighted PCC (l/h/d)</td>
<td>137.9</td>
<td>130.4</td>
<td>137.2</td>
</tr>
</tbody>
</table>

*water delivered for remaining months in year estimated using ratio of last year’s monthly figures to those already reported for this year for months not impacted by the weather.

Figures 4-7 and 4-8 show a density and box plot, respectively, comparing the uncertainty in the three-year average PCC due to the weather, when sampled for 2020, compared to the distribution assuming 2018/19 is known, based on the calculated weighted PCC above\textsuperscript{7}. Because year one of the three-year average (2018/19) is a dry year demand, the distribution has a median of 132.63 litres/head/day compared to a median of 130.45 litres/head/day; a difference of ~2.2 litres/head/day. This means that due to the hot summer of 2018, the likelihood of exceeding a deadband figure of 132 litres/head/day doubles from 30\% to 60\%.

\textsuperscript{7} The years 2019/20 and 2020/21 are still randomly sampled following the methodology outlines below, based on weather uncertainty and combined with the known 2018/19 figure.
Consistent with the approach outlined above of accepting 50% of the risk of exceeding the PCC deadband, we have set the deadband for the year 2020-21 to 134.3 litres/head/day, which is the 75th percentile of the distribution shown in Figure 4 and Figure 5 when the observed demand for 2018/19 is included.
Conclusion
The analysis presented above demonstrates that a window exceeding 20 years, and more consistent with the 30-year window that climatologists use to normalise for the influence of the weather, would be required to normalise for and fully remove the effect of the weather on PCC. Whilst the 3-year average does remove some of this variability, it does not fully remove the risk of failing the performance commitment, because of factors outside the company’s control. Deadbands are therefore justified and appropriate.

We have set the deadbands such that we are taking 50% of this risk. In 2018-19 we have strengthened our understanding of demand increases resulting from hot, dry weather – and given that 2018-19 will be the first year of the 3-year average for 2020-21 outturn data, we can now estimate that there is a 60% chance of us incurring a penalty/exceeding the deadband in the first year of the period already. This has increased from 30% had 2018-19 been an average year. Consistent with the approach of taking 50% of the risk, we have therefore increased our underperformance deadband for 2020-21 to reflect that 2018-19 is first year of the three-year average. The deadbands are shown in Table 4-13.

Table 4-13 proposed performance commitment level

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>2020-21</th>
<th>2021-22</th>
<th>2022-23</th>
<th>2023-24</th>
<th>2024-25</th>
</tr>
</thead>
<tbody>
<tr>
<td>In year target</td>
<td>l/head/day</td>
<td>129.7</td>
<td>129.0</td>
<td>128.5</td>
<td>127.9</td>
<td>127.4</td>
</tr>
<tr>
<td>PC – three-year-average</td>
<td>l/head/day</td>
<td>130.2</td>
<td>129.7</td>
<td>129.1</td>
<td>128.5</td>
<td>127.9</td>
</tr>
<tr>
<td>Underperformance deadband</td>
<td>l/head/day</td>
<td>134.3</td>
<td>131.4</td>
<td>130.7</td>
<td>130.1</td>
<td>129.5</td>
</tr>
<tr>
<td>Outperformance deadband</td>
<td>l/head/day</td>
<td>127.9</td>
<td>127.3</td>
<td>126.5</td>
<td>125.9</td>
<td>125.2</td>
</tr>
</tbody>
</table>

*Note: Only the underperformance deadband for 2020-21 has changed since the initial business plan submission in September 2018.

Above we have justified why an underperformance deadband is required. The inability of the three-year average to fully normalise for the influence of the weather could also negatively affect customers; Wessex Water could be rewarded for meeting their PCC performance commitment simply because the weather has been on average wetter and less sunny. Therefore, an outperformance deadband has also been included to protect customers for this eventuality at the 25th percentile. We have chosen not to increase this deadband for the 2020-21 period that would properly reflect the dry-year of 2018-19, which means that there is a less than 3% chance of achieving a reward for 2020-21.

Furthermore, the separate water efficiency performance commitment protects customers from us not delivering a programme to help them save water and money in wetter years when meeting the PCC target might be easier to achieve as a result of the weather.

Addendum: Methodology for PCC Monte Carlo analysis

Overview
We used the PCC component of our demand forecasting model which is used to derive our PCC forecast, and therefore consistent with the model used for the Water Resources Management Plan 2019. The model is run 20,000 times, and for each year in the forecast, independent samples are drawn from the prior distributions of the parameters that are
sampled. For these runs, we only sampled to account for the uncertainty in the weather e.g. the factors beyond the company’s control.

**Peak weather factors**

To account for the influence of the weather in water resources management planning, we followed the recommended UKWIR planning guidelines\(^8\), where we use models of the relationship between weather and demand to first normalise for the influence of the weather to derive a Normal Year Annual Average (NYAA) scenario, and then use peak uplift factors within the demand model to uplift NYAA demand to derive a demand prediction of the Dry Year Annual Average demand (DYAA).

Our peak factors were developed by the consultants Tynemarch (now Servelec)\(^9\), through analysis of annual performance return data, weather data, and detailed consumption information. Of relevance to PCC, we have separate peak factors for measured household consumption and unmeasured household consumption, which for the annual average scenario, are:

- Measured consumption – 4.1%
- Unmeasured consumption – 6.5%

The summer of 2018/19 was a particularly dry year that followed the submission of WRMP19, which saw record temperatures\(^10\), and high summer demand across the country. The year therefore provided an independent test of the quality of our peak factors. Table 4-14 shows the WRMP19 forecast dry year annual average was very close to that observed for 2018, which provides an independent validation of the accuracy of the demand peak factors.

<table>
<thead>
<tr>
<th>Actual 2018*</th>
<th>WRMP NYAA</th>
<th>WRMP DYAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted PCC (l/h/d)</td>
<td>137.9</td>
<td>130.4</td>
</tr>
</tbody>
</table>

*water delivered for remaining months in year estimated using ratio of last year’s monthly figures to those already reported for this year for months not impacted by the weather.

**Sampling for influence of the weather**

To simulate weather effects on PCC, for each year in the scenario, an uplift factor is sampled from a normal distribution with mean of zero, and standard deviation chosen such that the uplift factors applied in the demand forecast model to go from a normal year annual average demand (average or median demand) to a dry year annual average demand, are equivalent to the 85\(^{th}\) percentile of the sampling distribution. For each year in a given simulation, a separate uplift factor is sampled, so it is therefore assumed that the weather influence in each year is independent. Within each year, the same quantile is sampled from the measured and unmeasured distributions to ensure the uplift factors for each component

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of demand are consistent. The uplift factors are then multiplied by normal year forecast demand to simulate the influence of the weather.

### 4.8.2 WSX_OC.15 – CRI

We have accepted Ofwat’s proposal to set a deadband at 1.5 and a collar at 9.5 for 2020-25.

### 4.8.3 WSX_OC.24 – Water mains bursts

Our intention here has been misinterpreted and/or entered incorrectly in App1. We expect to face enhanced underperformance payments immediately that we fail our target. We have updated App1 and the detailed explanation of PCs in Appendix 3 to reflect this.

### 4.8.4 WSX_OC.28 – Sewer collapses

Our intention here has been misinterpreted and/or entered incorrectly in App1. We expect to face enhanced underperformance payments immediately that we fail our target. We have updated App1 and Appendix 3 to reflect this.

### 4.9 Enhanced ODIs

#### 4.9.1 WSX_OC.03 – Enhanced ODIs

The IAP challenges the level of our multiplier for enhanced ODI rates. We believe, as we set out in chapter 3 of our business plan, that our enhanced multiplier reflects the positive externalities for moving the frontier on, as set out in Frontier Economics’ report prepared for Ofwat in March 2017.

In both their draft and final methodology, Ofwat explained that “calculating rewards and penalties based purely on customer valuations does not take into account the wider benefits that customers should obtain from shifts in performance that set a new benchmark for industry performance” and that “the enhanced outperformance payment rate that applies beyond the threshold can include wider externalities that might not be captured in that company’s customer valuations”. We are surprised, therefore, to see Ofwat now being concerned that we have “enhanced ODI rates that exceed the willingness to pay of the company’s own customers” – as this was clearly the intention of enhanced rates.

As required, we have set out very clearly using customer and economic evidence why the enhanced rate we have chosen is appropriate.

We have also engaged with our customers on our overall ODI package (and are collating further supporting evidence through extra customer research) that strongly supports our overall ODI package, including the valuations for enhanced outperformance payments.

Ofwat also notes in its final methodology that “there are benefits to water customers as a whole, from companies being incentivised to shift the industry’s service performance. If a number of companies achieved enhanced outperformance payments for different aspects of service, the costs and benefits will be shared across customers”.

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The rejection of these multipliers will result in a much narrower range of potential incentives around ODIs that are substantially skewed to the downside, even before considering the cost allowance issues considered above (see Figure 3-1). We do not think this is in customers’ interests for a company that currently performs at or near the frontier levels of performance on a broad range of the key metrics and where it is targeting substantive improvements across a range of measures, as we are.

We are not proposing a cap on outperformance payments as none of Ofwat’s tests for appropriateness apply. In the final methodology, Ofwat state that “We consider that individual caps and collars are likely to be more appropriate where data quality is lower, or there is less comparative or historical information on performance (so it is hard to know that the performance commitment level is stretching) or where P10 / P90 performance levels are difficult to estimate or evidence on customer benefit is less robust and therefore ODI rates are less well supported.” This covers part of actions WSX.OC.08, 10, 18 and 32.

4.9.2 WSX.OC.08 – Volume of water leaked

We set out in Appendix 3 that our enhanced outperformance payments would commence at a 27% reduction, set as the industry frontier (cubic metres per km of mains per day) normalised as % reduction of annual average based on the average of each company’s shadow reporting performance in 2016-17 and 2017-18.

4.9.3 WSX.OC.18 – customer property sewer flooding (internal)

Our threshold for the enhanced outperformance payments is set at the performance level of the current leading company, as required in the methodology. We have explained in Appendix 3 why this is a stretching target and note that it is significantly better than any other company currently performs and better than our target level. In fact, our threshold in 2020 is lower than any company proposes to reach by 2025. No other company proposes a target that gets anywhere close to our enhanced threshold and so we believe the positive externalities of us performing at that level would be significant.

The only exception to these numbers is Hafren Dyfrdwy, who propose an unexpected and unlikely step change of >20% in 2023-24, with no step changes in any other years. We note that their data is new, uncertain and potentially incomparable. Based on this evidence, we discount them from our comparison.
Table 4-15: Companies’ proposed service levels (note that our enhanced threshold is set at 1.28 in 2020-21, reducing to 1.24 in 2024-25)

<table>
<thead>
<tr>
<th>Company</th>
<th>Internal sewer flooding (Number of incidents per 10,000 connections)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2020-21</td>
</tr>
<tr>
<td>Anglian Water</td>
<td>1.64</td>
</tr>
<tr>
<td>Dŵr Cymru</td>
<td>2</td>
</tr>
<tr>
<td>Hafren Dyfrdwy</td>
<td>1.69</td>
</tr>
<tr>
<td>Northumbrian Water</td>
<td>1.97</td>
</tr>
<tr>
<td>Severn Trent Water</td>
<td>1.66</td>
</tr>
<tr>
<td>South West Water</td>
<td>1.78</td>
</tr>
<tr>
<td>Southern Water</td>
<td>1.83</td>
</tr>
<tr>
<td>Thames Water</td>
<td>1.89</td>
</tr>
<tr>
<td>United Utilities Water</td>
<td>2.203</td>
</tr>
<tr>
<td>Wessex Water</td>
<td>1.54</td>
</tr>
<tr>
<td>Yorkshire Water</td>
<td>1.72</td>
</tr>
<tr>
<td><strong>Upper quartile</strong></td>
<td><strong>1.68</strong></td>
</tr>
</tbody>
</table>

4.9.4 **WSX.OC.32 – Wastewater pollution incidents – category 1-3**

Our threshold for the enhanced outperformance payments is set beyond the performance level of the current leading company, as required in the methodology. We have explained in Appendix 3 why this is a stretching target and note that it is significantly better than any other company currently performs.

We note that our target was set on an average of the last two years to ensure that the impact of unusual or one-off scores is not overly weighted. This is done in the context of a balanced overall package, which is what is important.
4.10 Overall ODI package

4.10.1 WSX.OC.04 – Overall ODI package

We submitted a large amount of evidence supporting our overall ODI package in our business plan. This can be found throughout our package WTP exercises, our ODI research by Turquoise and our acceptability and affordability testing by Populus.

We have also commissioned a further piece of research to support the overall size of our ODI package and which is submitted as Appendix 22. This shows that customers are supportive of our likely range of outperformance payments.

As discussed in sections 2.3 and 4.7, but equally relevant here, customers are presented with groupings of performance commitments and ranges of potential bill impacts of out and underperformance that could apply at the group level.

Customers are asked to show support or otherwise for the levels shown and can also then remove individual measures from consideration for outperformance payments.

The range of values shown to customers in the research are as follows:

- No outperformance payments available.
- Our additive P90 level.
- Our more accurate probability based aggregate P90 level allocated pro-rata back to each group of measures.
- A level above the additive P90.
The results show that:

- while there is a drop off in support at the higher levels of outperformance payment, the fall is inelastic with bill size and therefore a reduction in the value of payments is unlikely to increase support a great deal
- the average acceptable level of payment was c.£21 and the market researchers note that, given the high level of acceptability for the maximum level available, the data suggests there may be potential to increase the level of performance payments.

The average level of acceptability of c.£21 is well above the expected “likely best-case” implied by our ODI package (i.e. the P90 calculation of our ODI package modelled on a probabilistic basis is c.£15).

We therefore consider that we have good support for the approach given that we have support for outperformance payments at the true likely maximum aggregate level.

We note that £21 is below the additive P90 calculation of our ODI package of c.£30 the market research however we need also to consider that:

- scaling down the level of reward package will reduce the true likely best case well below the level customers have shown support for – reducing these incentives is therefore not in customers’ interests.
- the market research agency themselves note that the data suggests that £21 may be an underestimate
- that the already complex nature of the research made it difficult to describe in detail what customers would be getting for their money, in our view this is likely to suppress the level of support given
- we have proposed to limit in-year performance payments to 2% of RORE and to consider alongside the WWP whether any payments due above that value were the result of fortuitous events before proposing an RCV adjustment in 2025.
- £30 is well beyond the true likely best case.

We have also already taken steps in our plan to help address the concerns of the minority of customers about outperformance payments in general by committing to 20% of net rewards earned being invested back into the community.

Turquoise’s full findings of this research are shown as Appendix 22.

Separately from our research, there is a contradiction in Ofwat’s concerns here regarding customer priorities as they note that “customer priorities such as water quality and leakage are reflected only modestly in the overall package structure, while others of potentially lower customer priority have a larger impact on the overall package”. Later in the IAP, Ofwat note a concern that “the company provides insufficient evidence to justify… the magnitude of outperformance payment”. For clarity, our ERI (water quality) incentives are the most significant of all our outperformance incentives and all three of water mains bursts, customer reported leaks fixed within a day and volume of water leaked are in the top 10 underperformance incentives. We believe this clearly reflects customer priorities as evidenced in our engagement.
We have also undertaken a further piece of research on ERI specifically that confirms customers are willing to pay for rewards in excess of those we have proposed for ERI in the knowledge of its relative size in our overall package. This is discussed in more detail in section 4.13.

4.11 ODI timing

4.11.1 WSX.OC.46 – Lead communication pipes replaced (Wessex Water assets)

Ofwat note a concern that our “proposal represents a transfer of financial exposure from current to future customers”. And that we “do not provide an explanation on how the future customers will benefit from the performance achieved during the 2020–2025 period”.

Appendix 3.3 of our business plan sets out the CBA for this PC. Lead is a significant public health risk; it is harmful to health, particularly to young children, resulting in increased social costs over the life of people exposed to high levels of lead, including the cost of ill-health, lost earnings, the cost of special education.

We believe that this is as clear a link as you could hope to see between future customers benefitting from improved performance in 2020-25 and is a clear reason to use end of period incentives.

Ofwat also note in this action that we should demonstrate that performance improvements are cost beneficial. Again, our CBA in Appendix 3.3 of our business plan shows that our proposed approach of a 20 year solution has a P50 benefit to cost ratio (BCR) of 3.50 and a 100% probability of benefits outweighing costs.

4.12 Asset Health ODI package

4.12.1 WSX.OC.05 – Asset health ODI package

Ofwat have posed three actions against our asset health ODI package, which we consider in turn.

4.12.2 We should propose a water quality contacts (taste and odour) PC

We accept this action and set out our proposals in section 4.3.2

4.12.3 We should provide evidence that customers support our asset health outperformance payments

We have almost no asset health outperformance incentives. Our only one is on water quality customer contacts and is set such that at P90 performance we would receive less than £100,000 across the five years, equivalent to <0.1% of our RoRE range.

Having outperformance payments reflects the fact that this particular asset health PC is a true customer outcome, as opposed to mains bursts, sewer collapses and unplanned outages, which are inputs or outputs and, resultantly, do not have outperformance incentives applied.
4.12.4 We should provide a list of our asset health PCs with their P10 and P90 performance payments in £m and % of RoRE

Below are tables listing our asset health PCs with the details required for P10 and P90 performance.

**Figure 4-17: Asset Health PC Downside P10 rates**

<table>
<thead>
<tr>
<th>Measure</th>
<th>NPV of financial outturn (£m)</th>
<th>% of RORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water mains bursts</td>
<td>-16.72</td>
<td>9%</td>
</tr>
<tr>
<td>Sewer collapses</td>
<td>-13.86</td>
<td>7%</td>
</tr>
<tr>
<td>Water quality customer contacts (appearance, taste and odour)</td>
<td>-0.07</td>
<td>0%</td>
</tr>
<tr>
<td>Unplanned outage</td>
<td>0.00</td>
<td>0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>-£22.44</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 4-18: Asset Health PC Upside P90 rates**

<table>
<thead>
<tr>
<th>Measure</th>
<th>NPV of financial outturn (£m)</th>
<th>Bill Impact £ /hh / yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water mains bursts</td>
<td>£0.00</td>
<td>0%</td>
</tr>
<tr>
<td>Sewer collapses</td>
<td>£0.00</td>
<td>0%</td>
</tr>
<tr>
<td>Water quality customer contacts (appearance, taste and odour)</td>
<td>£0.13</td>
<td>0%</td>
</tr>
<tr>
<td>Unplanned outage</td>
<td>£0.00</td>
<td>0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>£0.09</strong></td>
<td>0%</td>
</tr>
</tbody>
</table>

We note that this is in line with our expectations of asset health incentive rates, with over 15% of our total downside RoRE associated with protecting customers against asset health issues and almost no upside to reflect the fact that the outcome customers see of improving asset health is rewarded elsewhere.

We also note that there are a number of other PCs (including CRI, ERI, treatment works compliance, sewer flooding and pollutions, amongst others – see Appendix 9 for more information) that have an element of asset health as a driver. We do not make an attempt to calculate the proportion of the result that is asset health driven due to the inherent complexity of each of these PCs. Rather, we note that it is critical for us to maintain and improve our asset health and that customers are protected against us not doing this through further underperformance payments for other PCs.

4.13 Customer protection

Ofwat asks all companies to commit to put in place additional protections for customers where they believe they are not protected against high outperformance payments.

While this is not our proposed or preferred option we have therefore provided alongside our response the caps, collars and deadbands on our ODIs that we would recommend are applied in the event that Ofwat:

- imposes reward caps, or
- does not substantively accept our case on cost allowances
We would expect caps and collars at our P10 and P90 values for each of the following should be applied to:

- sewer flooding (internal/external)
- pollution incidents
- leakage
- lead pipe replacement
- supply interruptions
- mains bursts
- CRI

4.14 Event Risk Index (ERI)

Ofwat noted a number of concerns about our ERI PC and ODI. Resultantly, we have undertaken an additional piece of customer research to provide reassurance that we are reflecting customer priorities, providing a sufficient level of stretch and a level of outperformance incentive rates that are supported by our customers. The detail of this research is set out in section 2 and the full stimulus and findings are available in a Appendix 21.

4.14.1 WSX.OC.33 – Stretch

Our additional customer research provides evidence that customers believe our ERI target is stretching and this is supported by the latest data that was not available at the time of business plan submission.

2017/18 (calendar year 2017) was our best ever performance at 13.72. Our estimated ERI score for calendar year 2018 is 25.6; this will be confirmed by DWI in July this year. Thus 2017 is our best ever score. We were the leading company in 2017, with a score approximately 18 times lower than the national average. Our estimated 2018 position is twice as bad as our target and our estimate for 2019 is the same amount worse again. It is clear, therefore, that reaching 13.72 consistently for five years would be incredibly stretching.
Our research showed that “most people instinctively want to see Wessex Water reach the top level of performance”, which corresponds to our P10 position but are happy to pay extra for it. Others note that our target level is “very good”, “acceptable” and “realistic”, whilst commenting that we should, as we are, be “aspiring to the green” (green is our P10 position).

4.14.2 WSX.OC.34 – ODI type

Our additional customer research provides evidence that customers support the use of an outperformance payment.

The research found the “majority willing to pay +£13” for our P10 performance level. They find this “a relatively small price to pay for improved/high quality service”.

When asked “how satisfied would you be if Wessex Water reached a higher water quality target which would have the potential for Ofwat to permit higher bills?”, a clear majority of customers were satisfied to have the higher performance target.

Comments included:

“I’d rather pay more to have a better level of service”
“This is a small price to pay to have the very best water supply”
“I would be happy to pay more”

We are proposing to keep an outperformance payment.

Further, from our quantitative research with Turquoise, we find that a majority of customers support the availability of outperformance payments in all of the areas tested, including the ERI measure.
The details of this research are discussed in sections 2.3, 4.6, 4.7 and 4.10, with full results available in Appendix 22.

4.14.3 WSX.OC.35 – ODI rate

Our additional customer research provides evidence that customers support our outperformance incentive rate on ERI.

Water quality consistently comes out as the most important performance area in all customer research. This is strongly evidenced in the research we submitted in our business plan. Given this and the fact that we already perform well compared to the industry, it is appropriate that water quality should be the single biggest contributor to our RoRE outperformance range.

Our qualitative research with Blue Marble showed that “when considered, £13 bill increase seems a reasonable premium” and that the “majority are willing to pay +£13" for our P10 performance level.

Comments included:

“I would happily pay just over £1/month more in a year if this meant better water quality”

To have improved water quality for an extra £13 is a fair price"

Given that these comments were received against our P10 level – where we have also now introduced a cap – there is clear support for an ODI rate at the level we have set against more likely outturn values.

Our additional quantitative research, discussed further in Section 2.3 and available in Appendix 22, shows that:

- a majority of customers support the availability of outperformance payments in all of the areas tested, including the water quality ERI measure
- none of the measures were excluded by the majority of customers
- in the majority of areas customers expressed support for outperformance payments at a level that is commensurate with the P90 modelled on a probabilistic basis
- a significant minority appear to be not supportive of any outperformance payments.

4.14.4 WSX.OC.36 – Caps, collars and deadbands

We have removed our deadband on this measure. The deadband was originally introduced to provide protection against swings in the measure as it is a relatively new approach. However, we agree with Ofwat that this is better served using a cap and collar.

An outperformance cap has been included to protect customers from unexpected outperformance that goes beyond our P90. This is in line with Ofwat’s proposed methodology set out in Technical Appendix 2 and is aligned to our customer research as
discussed earlier. To ensure a balance of risk and reward, the same logic has been applied to an underperformance collar, which is set at our P10 position.
5. Accounting for past delivery actions

5.1 Summary of changes made

Table 5-1: Summary of changes

<table>
<thead>
<tr>
<th>Change made</th>
<th>Related Ofwat actions</th>
<th>Where to find additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Retail</td>
<td></td>
<td>5.3.2 &amp; Separate submission of reconciliation models</td>
</tr>
<tr>
<td>We have updated the discount rate in the retail reconciliation model to the appointee WACC of 3.74%. In addition, we provide additional supporting information for our forecast property numbers.</td>
<td>WSX.PD.A2</td>
<td></td>
</tr>
<tr>
<td>Wholesale revenue forecasting incentive mechanism</td>
<td></td>
<td>5. 2 &amp; Separate submission of reconciliation models</td>
</tr>
<tr>
<td>We have updated the WRFIM model to be consistent with the adjustments we are proposing.</td>
<td>WSX.PD.A4</td>
<td></td>
</tr>
<tr>
<td>Totex reconciliation</td>
<td></td>
<td>5. 2 &amp; Separate submission of reconciliation models</td>
</tr>
<tr>
<td>We have updated the Totex reconciliation model. The model includes an updated treatment of legacy retail depreciation.</td>
<td>WSX.PD.A3</td>
<td></td>
</tr>
<tr>
<td>Disposal of land</td>
<td></td>
<td>5. 2 &amp; Separate submission of reconciliation models</td>
</tr>
<tr>
<td>We have used the latest published data tables to calculate the adjustment required.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Actions WSX.PD.A1 and WSX.PD.A5 will be completed alongside the annual performance report and resolved in our July submission.

5.2 Wholesale Actions

We have not changed our view on performance or expenditure since our September submission for 2015-20. We will update our performance levels in July 2019. Thus, at this stage there are no changes to the outcome delivery incentive or SIM models.

We have accepted both actions and amended the relevant feeding models to incorporate these changes.

WSX.PD.A2 – We have adopted the use of the totex reconciliation model published alongside the IAP.

WSX.PD.A3 – Through the query process we agreed to not use the early return of revenue functionality and change our K factor, instead running the revenues through the WRFIM model naturally. We have retained the philosophy of only having the adjustment from the revenue correction mechanism from 2010-2015 outstanding in 2020. We confirm that the
board approved and set our customer and wholesale charges for 2019-20 consistent with this outcome.

We also note a difference in the calculation of the RCV adjustment through land disposal in table App9 which we have reflected in the RCV reconciliation model.

The impact of these changes and updating inflation are outlined in table 5.2.

**Table 5-2: Past performance adjustments £m @17-18 CPIH deflated prices**

<table>
<thead>
<tr>
<th>Adjustment</th>
<th>Data table reference</th>
<th>September '18 Submission</th>
<th>April '19 Submission</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wholesale Water</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Adjustments</td>
<td></td>
<td>-9.6</td>
<td>-9.2</td>
<td>-0.4</td>
</tr>
<tr>
<td>2010-15 adjustment</td>
<td>App25 line 8</td>
<td>-0.6</td>
<td>-0.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Outcome delivery incentives</td>
<td>App27 lines 41+42</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Totex menu</td>
<td>App25 line 18</td>
<td>-3.9</td>
<td>-3.5</td>
<td>-0.4</td>
</tr>
<tr>
<td>WRFIM</td>
<td>App25 line 22</td>
<td>-5.1</td>
<td>-5.1</td>
<td>0.0</td>
</tr>
<tr>
<td>RCV Adjustments</td>
<td></td>
<td>-46.5</td>
<td>-46.2</td>
<td>-0.4</td>
</tr>
<tr>
<td>2010-15 adjustments</td>
<td>App25 line 7</td>
<td>3.4</td>
<td>3.4</td>
<td>0.0</td>
</tr>
<tr>
<td>CIS correction</td>
<td>App25 line 11</td>
<td>-31.9</td>
<td>-31.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Outcome delivery incentives</td>
<td>App27 lines 48+49</td>
<td>0.8</td>
<td>0.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Totex menu</td>
<td>App25 line 19</td>
<td>-17.9</td>
<td>-17.6</td>
<td>-0.2</td>
</tr>
<tr>
<td>Land disposal</td>
<td>App25 line 13</td>
<td>-1.0</td>
<td>-0.9</td>
<td>-0.1</td>
</tr>
<tr>
<td><strong>Wholesale Wastewater</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Adjustments</td>
<td></td>
<td>15.0</td>
<td>15.9</td>
<td>-0.9</td>
</tr>
<tr>
<td>2010-15 adjustment</td>
<td>App25 line 10</td>
<td>0.2</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Outcome delivery incentives</td>
<td>App27 lines 43+44</td>
<td>32.7</td>
<td>32.7</td>
<td>0.0</td>
</tr>
<tr>
<td>Totex menu</td>
<td>App27 line 20</td>
<td>-7.9</td>
<td>-7.0</td>
<td>-0.9</td>
</tr>
<tr>
<td>WRFIM</td>
<td>App28 line 23</td>
<td>-9.9</td>
<td>-9.9</td>
<td>0.0</td>
</tr>
<tr>
<td>RCV Adjustments</td>
<td></td>
<td>-126.8</td>
<td>-125.9</td>
<td>-0.9</td>
</tr>
<tr>
<td>2010-15 adjustments</td>
<td>App25 line 9</td>
<td>-0.3</td>
<td>-0.3</td>
<td>0.0</td>
</tr>
<tr>
<td>CIS correction</td>
<td>App25 line 12</td>
<td>-32.6</td>
<td>-32.6</td>
<td>0.0</td>
</tr>
<tr>
<td>Outcome delivery incentives</td>
<td>App27 line 50</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Totex menu</td>
<td>App27 line 21</td>
<td>-93.8</td>
<td>-93.0</td>
<td>-0.8</td>
</tr>
<tr>
<td>Land disposal</td>
<td>App27 line 14</td>
<td>-0.2</td>
<td>-0.1</td>
<td>-0.1</td>
</tr>
<tr>
<td>SIM (revenue)</td>
<td>App15 line 30</td>
<td>11.0</td>
<td>11.0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Wholesale Revenue</strong></td>
<td></td>
<td>16.4</td>
<td>17.7</td>
<td>-1.3</td>
</tr>
<tr>
<td><strong>Wholesale RCV</strong></td>
<td></td>
<td>-173.3</td>
<td>-172.1</td>
<td>-1.2</td>
</tr>
</tbody>
</table>
5.3 Residential retail

We provide responses to action WSX.PD.A2 below.

5.3.1 Wessex Water is required to clarify why it used a different discount rate in the model and table R9

We should have entered 3.74% as we state in the commentary. This has been updated.

5.3.2 Provide further clarity on the reasons for the difference between reforecast customer numbers and actual customer numbers in 2018-2019;

The reforecast customer numbers in 2018/19 were completed in Autumn 2017 for the 2018/19 charges calculation and submitted to Ofwat as part of the average bill information in January 2018.

Since that time, we have updated our property number forecasts for 2018/19 to take account of the most recent information, specifically the forecasts for tables WS3 and WWS3 which incorporate our draft Water Resource Management Plan (WRMP) forecasts.

Table 5-3: Difference between 2018/19 forecast and reforecast customer numbers

<table>
<thead>
<tr>
<th>Customer type</th>
<th>Reforecast</th>
<th>Actual</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unmetered water-only</td>
<td>20,361</td>
<td>19,320</td>
<td>-1,041</td>
</tr>
<tr>
<td>Unmetered wastewater-only</td>
<td>265,781</td>
<td>273,624</td>
<td>7,843</td>
</tr>
<tr>
<td>Unmetered water and wastewater</td>
<td>163,917</td>
<td>170,045</td>
<td>6,128</td>
</tr>
<tr>
<td>Metered water-only</td>
<td>20,010</td>
<td>21,212</td>
<td>1,202</td>
</tr>
<tr>
<td>Metered wastewater-only</td>
<td>377,353</td>
<td>372,547</td>
<td>-4,806</td>
</tr>
<tr>
<td>Metered water and wastewater</td>
<td>351,455</td>
<td>349,367</td>
<td>-2,088</td>
</tr>
<tr>
<td>Total unmetered</td>
<td>450,059</td>
<td>462,989</td>
<td>12,930</td>
</tr>
<tr>
<td>Total metered</td>
<td>748,818</td>
<td>743,126</td>
<td>-5,692</td>
</tr>
<tr>
<td>Total</td>
<td>1,198,877</td>
<td>1,206,115</td>
<td>7,238</td>
</tr>
</tbody>
</table>

The difference in the reforecast customer numbers and actual customer numbers reflect two things:

- Higher property growth forecasts in our WRMP which are based on Local Authority Plans that feed into the actual customer numbers. We outline the methodology taken for this in the commentaries to tables WS3 and WWS3.
- Lower meter switching forecasts in our WRMP (that feed into the actual customer numbers) compared to those we expected when completing our forecasts for charging purposes (that feed into the reforecast customer numbers).

We are requested to provide further evidence to support the forecasts for unmetered wastewater-only customers in 2019-2020, unmetered water and wastewater customers in 2019-2020 and metered water and wastewater customers in 2018-2019. We are not sure why the above-mentioned forecasts are worthy of particular note. They do not appear out of line with the rest of the time series. We provide graphs of the queried forecasts below, with the specific years identified.
Figure 1: Figure 5-1 Unmetered wastewater only customers, 2010-2025

Figure 5-2 Unmetered water and wastewater customers, 2010-2025

Figure 5-3 Metered water and wastewater customers, 2010-2025
All property forecasts (all data after the most regulatory year; starting from 2018/19) are those created for the Water Resources Management Plan (WRMP). We have applied the same methodology when creating the growth forecasts in our sewerage area. We outline the methodologies in detail in our commentaries to tables WS3 and WWS3.

As we note in our WS3 and WWS3 commentaries our forecasts are consistent with the WRMP guidance and use local authorities’ most recent forecasts of property growth, built up from this level to a total for our region. As our water and sewerage areas are very different, we have allocated the growth for water only, sewerage only and water and sewerage areas by the property forecasts from the local authorities in the different regions. Overall property growth from 2018/19 to 2024/25 is shown in the table below.

### Table 5-4: Property growth 2018/19 to 2024/25

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water only</td>
<td>383</td>
<td>391</td>
<td>412</td>
<td>383</td>
<td>361</td>
<td>348</td>
<td>328</td>
</tr>
<tr>
<td>Sewerage only</td>
<td>6,746</td>
<td>6,654</td>
<td>6,582</td>
<td>6,128</td>
<td>5,883</td>
<td>5,727</td>
<td>5,475</td>
</tr>
<tr>
<td>Water &amp; sewerage</td>
<td>7,575</td>
<td>6,873</td>
<td>6,100</td>
<td>6,398</td>
<td>6,426</td>
<td>6,295</td>
<td>5,994</td>
</tr>
<tr>
<td>Total</td>
<td>14,704</td>
<td>13,918</td>
<td>13,094</td>
<td>12,910</td>
<td>12,669</td>
<td>12,370</td>
<td>11,796</td>
</tr>
</tbody>
</table>

We have also forecast the number of meter switchers, using our own WRMP and also having considered Bristol Water’s and South West Water’s WRMP proposals. The table below shows this.

### Table 5-5: Meter switchers 2018/19 to 2024/25

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Meter options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water only</td>
<td>535</td>
<td>492</td>
<td>455</td>
<td>422</td>
<td>392</td>
<td>364</td>
<td>339</td>
</tr>
<tr>
<td>Sewerage only</td>
<td>5,848</td>
<td>6,148</td>
<td>6,448</td>
<td>4,942</td>
<td>5,021</td>
<td>5,137</td>
<td>5,285</td>
</tr>
<tr>
<td>Water &amp; sewerage</td>
<td>4,711</td>
<td>4,330</td>
<td>4,005</td>
<td>3,712</td>
<td>3,446</td>
<td>3,205</td>
<td>2,985</td>
</tr>
<tr>
<td>Change of occupier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water only</td>
<td>614</td>
<td>553</td>
<td>499</td>
<td>452</td>
<td>410</td>
<td>374</td>
<td>342</td>
</tr>
<tr>
<td>Sewerage only</td>
<td>4,156</td>
<td>4,324</td>
<td>4,494</td>
<td>3,466</td>
<td>3,497</td>
<td>3,556</td>
<td>3,639</td>
</tr>
<tr>
<td>Water &amp; sewerage</td>
<td>5,408</td>
<td>4,865</td>
<td>4,392</td>
<td>3,977</td>
<td>3,612</td>
<td>3,291</td>
<td>3,007</td>
</tr>
<tr>
<td>Total</td>
<td>21,272</td>
<td>20,712</td>
<td>20,293</td>
<td>16,970</td>
<td>16,378</td>
<td>15,925</td>
<td>15,596</td>
</tr>
</tbody>
</table>

Building up the growth forecasts and meter switchers results in our overall property forecasts, split by water only, sewerage only, water and sewerage for measured and unmeasured.
6. Risk and return

6.1 Summary of changes made

We have made the following amendments to our plan in the light of feedback received since its submission in September 2018.

<table>
<thead>
<tr>
<th>Area</th>
<th>Change made</th>
<th>Related Ofwat actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>WACC</td>
<td>We have applied Ofwat’s central estimate of 2.4% (appointee) in our financial model compared to the 2.6% (appointee) we applied in September. We have also removed the upwards adjustment applied to the cost of equity for an exceptional plan in line with Ofwat’s IAP assessment.</td>
<td>WSX.RR.A1 WSX.AC.A7 WSX.AC.A8</td>
</tr>
<tr>
<td>Modelling the notional company</td>
<td>We have used the Ofwat model to create Ofwat’s notional company and applied assumptions in line with the required methodology. We now use the RORE information from the financial model that is used by App26 to ensure consistency with other companies.</td>
<td>WSX.RR.A2 WSX.RR.A5 WSX.RR.B1</td>
</tr>
<tr>
<td>RORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Target credit rating</td>
<td>Our revised plan targets BAA1/BBB+ on an actual and notional capital structure.</td>
<td>WSX.RR.A4</td>
</tr>
<tr>
<td>Financeability and financial resilience</td>
<td>We have reassessed financeability and financial resilience based on our revised plan and a stress test of it.</td>
<td>WSX.RR.A3</td>
</tr>
<tr>
<td>Uncertainty Mechanism for changes in the WINEP</td>
<td>We clarify the current status of our proposed uncertainty mechanism.</td>
<td>n/a</td>
</tr>
</tbody>
</table>

6.2 WACC

In accordance with Ofwat’s requirement WSX.RR.A1 we have input a wholesale WACC of 2.3% (Real RPI deflated) to Ofwat’s financial model which is the equivalent to an allowance of c.2.4% at the appointee level.

Our amended business plan will provide excellent and resilient services to our customers. To do this we need to ensure that:

- we always have robust access to capital markets at reasonable costs
- our existing investors are willing to accept the returns our plan delivers.

We believe that is the case. The plan continues to assume a dividend yield of c2.7% on regulated equity.
6.3 Consistency of economic parameters

Ofwat’s determination will need to assume a WACC at a level where it can be confident that it continues to meet its statutory duties between 2020 and 2025 when combined with each of the other economic parameters in its determination, including productivity growth and cost inflation.

This requires the views taken on each of these parameters to be consistent and to take into account the relationships between them as do independent bodies such as the OBR when they derive their economic forecasts.

We commissioned a report from Economic Insight (Appendix 20) which shows evidence of the relationships that exist between these key economic parameters.

Economic Insight’s view is that the IAP suggests that Ofwat intends to use a set of parameters that are not internally consistent, predominantly because it takes equity returns and levels of input cost increase that might be considered consistent with a low-growth economy while assuming productivity growth rates that imply a high-growth economy.

Having now revised our plan to use a cost of capital of 2.4% we have considered our plan as a whole and have taken the view that, if the rest of the plan is accepted in full that this allows us sufficient financial resilience.

Ofwat’s cost assessment policy decisions imply for us a frontier shift well above 1.5% which as we have explained elsewhere in this document we do not believe is credible and would call the financeability of the plan as a whole into question.

We recommend that Ofwat ensures that the key economic parameters of the determinations are consistent, in particular by considering the impact of its cost assessment policy decisions on the implied frontier shift and by reassessing the likely increases in input prices (RPEs) between 2020 and 2025.

We understand the need to show continued productivity improvements and the uncertainty around any efficiency analysis. We should also remember that the purpose of incentive-based regulation has been to progressively incentivise and reveal efficient costs.

We therefore recommend that having ensured consistency in the key economic parameters Ofwat highlights separately the potential to deliver a greater stretch in the interests of consumers. While these additional stretch targets would not be applied to the determined cost allowances they could be used by investors and stakeholder to challenge companies to deliver greater efficiencies that will benefit customers from 2025.

In their report to us Economic Insight note that if we were to adopt Ofwat’s cost of capital in our plan that one logical and coherent response to this would be to reduce the amount of risk inherent in our ODI package by applying collars and dead bands.
While this is not our proposed or preferred option we have therefore provided alongside our response the caps, collars and dead bands on our ODIs that we would recommend are applied in the event that Ofwat:

- imposes reward caps,
- does not substantively accept our case on cost allowances.

### 6.4 Credit metrics

The ratios implied by our plan that are derived from our own company model are as follows:

<table>
<thead>
<tr>
<th>Table 6-1: Company model financial ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Gearing (Regulatory)</td>
</tr>
<tr>
<td>Gearing (Moody’s)</td>
</tr>
<tr>
<td>AICR (Moody’s)</td>
</tr>
<tr>
<td>FFO/Debt (S&amp;P)</td>
</tr>
<tr>
<td>PMICR (Fitch)</td>
</tr>
</tbody>
</table>

The board compared these ratios with those produced by the Ofwat model as below and reviewed a report from EY that included consideration of the differences. EY reported positively and the board considered that the ratios were sufficiently close in their effect to allow them to assure the plan as submitted in the Ofwat financial model. Notably the Ofwat financial model calculates year-end gearing using an RCV that is stated at average year prices which is not consistent with how year-end RCVs have been stated to date.

<table>
<thead>
<tr>
<th>Table 6-2: Ofwat model financial ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Gearing</td>
</tr>
<tr>
<td>AICR “alternative”</td>
</tr>
<tr>
<td>FFO/Debt “alternative”</td>
</tr>
<tr>
<td>AICR</td>
</tr>
</tbody>
</table>

The board has confirmed that the amended 2020-25 plan targets a BAA1 rating at Moody’s and a BBB+ rating at Fitch.

### 6.5 Stress testing

When stress-testing our September plan we identified that the limiting factor was keeping the Moody’s AICR above the level we consider is consistent with maintaining an investment grade rating.

We have conducted a new financial resilience (stress test) analysis using the scenarios we set-out in our September submission. Our updated central assumptions keep interest covers at a very similar level to our September plan due to the introduction of additional...
index-linked debt and therefore the conclusions of the stress-testing analysis are the same. We conclude that:

- none of the modelled scenarios would trigger a repayment of debt in advance of its maturity date by breaching a financial covenant
- some of the more extreme scenarios would threaten the level of interest cover required for investment grade.

Where interest covers are threatened over a longer-term period this is caused by substantial and sustained overspends against our plan estimates. We consider it to be highly probable (given in part because of the evidence of our historical performance on costs) that this would have to be caused by a substantial effect outside of management control that could trigger a redetermination of prices under our licence.

Having considered this evidence the board confirmed that its assurance statement in September 2018 on financial resilience was made unchanged against this amended plan.

### 6.6 Modelling the notional company

When modelling the business under Ofwat’s notional capital structure we have used Ofwat’s model and used Ofwat’s notional company assumptions set out in the methodology:

- Opening gearing at 60%.
- 33% of opening debt index-linked.
- Pension deficit liabilities as per Ofwat funding assumptions.
- Coupon rates for all debt (existing and new financing requirement) set as Ofwat’s assumed cost of debt (within its 2.4% appointee WACC assumption).
- New financing to be funded by additional debt.
- Dividend yield set to be 4.52% (equivalent to the real allowed cost of equity).

We commissioned Mott MacDonald to independently review how we had interpreted Ofwat’s guidance when modelling under a notional structure.

We have not removed the positive uplift in our revenues that we expect to gain from our AMP6 performance. Ofwat’s methodology says that these revenues can be assumed if there is compelling evidence that this is in customers’ interests. We are not sure how this test applies in the context of a notional company, nevertheless the associated revenues are transparent in the model and can be removed if required.

Having made these assumptions the equivalent ratios to the above are as follows:

<table>
<thead>
<tr>
<th>Financial ratios from Ofwat model</th>
<th>2020-21</th>
<th>2021-22</th>
<th>2022-23</th>
<th>2023-24</th>
<th>2024-25</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gearing</td>
<td>60.7%</td>
<td>61.9%</td>
<td>62.9%</td>
<td>63.6%</td>
<td>64.0%</td>
<td>&lt;70%</td>
</tr>
<tr>
<td>AICR “alternative”</td>
<td>1.56</td>
<td>1.53</td>
<td>1.42</td>
<td>1.44</td>
<td>1.44</td>
<td>&gt;1.5</td>
</tr>
<tr>
<td>FFO/Debt “alternative”</td>
<td>9.0%</td>
<td>8.8%</td>
<td>8.6%</td>
<td>8.6%</td>
<td>8.6%</td>
<td>&gt;6%</td>
</tr>
<tr>
<td>AICR</td>
<td>1.9</td>
<td>1.8</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>&gt;1.4</td>
</tr>
</tbody>
</table>

We note that interest covers “alternative” are under the target level of >1.5 that under Moody’s methodology would be consistent with a BAA1 rating.
We also note that Ofwat’s notional capital structure assumes that all new debt is raised at Ofwat’s average cost of debt allowance (not the forecast cost of new debt which is lower) and does not assume any additional index linked debt is raised in the period.

On this last point it would be possible to retain an alternative AICR of above 1.5 if more index linked debt was raised, and so the notionally geared structure can be consistent with the targeting of a BAA1 credit rating. This was considered by the Board in making its assurance statement that the company plan is financeable on the notional capital structure.

6.7 RORE analysis

We recognise that there are a number of methodologies that can be adopted for assessing RORE over a five-year period. We took a different approach via a separate model in our September submission. For the purposes of this resubmission we now use the RORE information from the financial model that is used by App26 to ensure consistency with other companies.

We note that this has required us to use an additive methodology when calculating RORE from our package of ODIs, however this will tend to overstate the RORE range compared to our scenario-based modelling approach on ODIs which derives a narrower range. This narrower range (where the P90 position for ODIs would imply a bill impact of c.£15 per year) is the key value to consider when assessing customer acceptability.

6.8 Uncertainty mechanism for the WINEP

There was a requirement to propose an uncertainty mechanism for subsequent changes to the WINEP requirement where uncertain schemes that are allowed for in our cost allowance are subsequently deemed not to be required.

We proposed a mechanism but have not had feedback on it. The starting point of our mechanism was that our cost allowance would match our plan assumptions. In the event that Ofwat does not allow the full level of cost allowance we would expect that it would also make suitable adjustments to the proposed incentive mechanism so that neither the company nor customers are exposed to any undue regulatory risk.
7. Securing confidence and assurance detailed actions

7.1 Summary of changes made

Table 7-1: Summary of changes

<table>
<thead>
<tr>
<th></th>
<th>Change made</th>
<th>Related Ofwat actions</th>
<th>Where to find additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividend policy</td>
<td>Updated text</td>
<td>WSX.CA.A5</td>
<td>n/a</td>
</tr>
<tr>
<td>Executive pay policy</td>
<td>Updated text</td>
<td>WSX.CA.A6</td>
<td>n/a</td>
</tr>
<tr>
<td>Board Assurance statement</td>
<td>Changes made to the September 2018 statement plus additional board assurance on investment related to the requests for adjustments to cost allowances in the IAP</td>
<td>WSX CA.A1 WSX.CA.A2 WSX CA.A3 WSX.CA.A4</td>
<td>See Appendix 17</td>
</tr>
</tbody>
</table>

7.2 Updating the statement of dividend policy

On 25th March the board considered and approved a revised statement of its AMP7 dividend policy. This takes into account the feedback received on the proposed statement made in the September 2018 submission. Our updated plan continues to assume a dividend yield of c.2.7% on regulated equity.

For the avoidance of doubt the text in the next section should be considered to replace the italicised text in section 9.8 page 233-234 of our September 2018 document “For You. For Life”

7.2.1 Our revised statement of dividend policy

The board’s dividend policy is to be as follows:

The board projects a level of dividend over the period of its five-year business plan which is consistent with the regulatory settlement and its targeted credit rating. Dividends are then budgeted on a year-by-year basis taking into account the actual performance of the company against that plan.

When setting the annual budgeted dividend, in agreeing any figure above the base level assumed in the price review, the board will include consideration of the level of any cost savings achieved against the price determination and any financial rewards from outperforming the company’s performance commitments. Additional dividend will only be budgeted against this outperformance if the company has delivered on its commitments within the business plan. Any financial penalties from failing to meet performance commitments will weigh negatively on the budgeted dividend.

Dividend payments are then reviewed and approved on a quarterly basis after taking into account both current and projected business performance.
In particular, before approving each quarterly dividend, the board takes into account:

- the company’s current and projected performance in delivering the level of service customers expect from an efficient water and sewerage company and that where that level of service has not been delivered, that customers have been adequately compensated
- that the company is delivering the required quality and environmental outputs and making sufficient investment in its infrastructure to maintain and, where necessary, increase resilience
- that appropriate payments have been made and can continue to be made into the company’s final salary pension scheme as agreed with the scheme’s trustees
- that the correct amount of tax has been paid
- that the company has met any unexpected additional expenditure needs that may have arisen during the year to date, as new operational risks emerge.

The board will only agree to the resultant distribution of the dividend if, on a forward-looking basis, it is satisfied that regulatory gearing will not exceed 70% and that there is no known risk to the company’s targeted credit ratings. The company will maintain a solid investment grade credit rating at all times.

The board will report annually how the above factors have been taken into account when determining the level of dividend. In the event that the board agrees changes to this dividend policy these will be published with reasons in the Annual Review.

7.3 Updating the executive pay policy

As part of the approval of this submission the board agreed the making of a revised statement of executive pay for the AMP7 period taking into account the feedback in Ofwat’s IAP.

7.3.1 Remuneration for executive directors

Remuneration packages for directors and senior executives, including salary range, potential bonus levels and other benefits, will be set by the Remuneration Committee taking into account the performance of the executive, levels of remuneration across the business and appropriate market benchmarks.

Each year the Remuneration Committee sets stretching company targets having regard to historical company performance, sector comparisons and the performance commitments made in the business plan.

At the end of each financial year, the Remuneration Committee will review company and individual performance. Only if the committee judges that three quarters or more of the customer and environmental targets have been achieved, will executive directors be eligible for the award of a bonus.

In determining the level of bonus, the committee will then take into account performance against a range of measures, weighted as shown in the following table.
Performance against a set of company financial targets may act to gear up or gear down the level of the bonus subject to the continued application of the factors set-out in the first paragraph. The financial targets will include a measure of expenditure compared to that assumed in the most recent price determination.

The executive bonus plan is therefore designed to:

- ensure that any bonus payment is dependent first on stretching delivery for customers and the environment
- ensure that customer and environmental performance has the greatest weighting of all measures
- structure rewards to reflect an individual’s degree of influence
- encourage and reward individuals for achievement and outperformance of targets
- attract and retain talented senior executives.

In total, and for every director, the majority of the bonus paid in each year will be explicitly tied to measures associated with stretching delivery for customers and the environment. The company will report each year on how it has met these guiding principles, where any changes have been made and the reasoning for these changes.

### 7.3.2 Next steps

For the avoidance of doubt the text in the previous section should be considered to replace the section 9.9 page 234 of our September document “For You. For Life”.

Final details of the policy will be confirmed by the Remuneration Committee during 2019-20 and while changes to the principles above are not anticipated any that do occur will be published with reasons.

### 7.4 Changes to the board’s assurance statement

We have made changes to the board assurance statement to take into account the feedback from Ofwat and to consider and cover any changes made to our proposed plan since its submission in September.

The board made this assurance statement at its meeting on the 25th March 2019 and endorsed the revisions to the plan and approved this submission.

---

**Table 7-2: Performance bonus weighting**

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Weight</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer</td>
<td>30%</td>
<td>2 baskets of measures including leakage, C-MeX, pollutions, sewer flooding, water quality and proportion of PR19 targets met</td>
</tr>
<tr>
<td>Environment</td>
<td>30%</td>
<td>Including staff engagement, training, staff turnover and positive board assessments of health and safety and diversity progress</td>
</tr>
<tr>
<td>Employee</td>
<td>20%</td>
<td>Personal contribution based on appraisal rating and contribution to all targets</td>
</tr>
<tr>
<td>Personal</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>

---
7.4.1 Changes made

We have made a number of technical changes to the statement.

More substantively we have also introduced an additional statement from the board that assures that where we consider that Ofwat’s IAP cost assessment is not sufficient to allow us to deliver the statutory, licence or performance commitment obligation and associated investment proposal and we have requested a change to this, that:

- these proposals are robust, efficient and deliverable
- a proper assessment of options has taken place and the option chosen is best for customers
- there is a proven need for the outcome delivered and there is protection for customers if the outcome is not delivered.

7.4.2 Other Assurance actions

We cover actions WSX.CA.A7 and WSX.CA.A8 as well as a non-referenced action related to third party assurance on notional values in Section 6 of this document.

We commissioned Mott MacDonald to provide a level of assurance to the Board on the revisions to our plan, in particular where data tables have been changed since September 2018. Their report is available as Appendix 15. EY also reviewed changes to financial data tables and reported to the directors on their findings. We have provided a commentary on our data table changes which is available as Appendix 2.

7.4.3 Revised board assurance statement

We have provided the full revised assurance statement as Appendix 17 where for ease of review we have left tracked changes from our September 2018 version visible. We have also uploaded a clean version to the Ofwat sharepoint.

For the avoidance of doubt this can be taken to replace in full section 12 of our September document – For You. For Life.