



AFW Securing Cost Efficiency

Evidence Document

March 2019

Table of Contents

| | | |
|----------|--|-----------|
| 1 | High level response to Ofwat Feedback..... | 3 |
| 1.1 | Summary..... | 3 |
| 2 | Detailed response to Ofwat feedback actions | 4 |
| 2.1 | AFW.CE.A1..... | 4 |
| 2.2 | AFW.CE.A2..... | 15 |
| 2.3 | AFW.CE.A3..... | 18 |
| 2.4 | AFW.CE.A4..... | 24 |
| 3 | Appendices..... | 26 |

1 High level response to Ofwat Feedback

1.1 Summary

We have addressed the actions from the IAP in this area. We have fully reviewed our wholesale Totex and retail expenditure. On our wholesale enhancements, we have assessed and accepted the general efficiencies Ofwat had applied in the IAP. We have accepted Ofwat's assessment of costs for metering and lead. We have kept our plan in line with our draft water resources management plan (drWRMP). This has enabled further reductions against our September Plan and the IAP. We have increased our commitment on leakage and are seeking additional funding whilst retaining our enhancement expenditure for the 15% reduction in leakage which is linked to delivering our drWRMP and calming the network.

We have retained our base wholesale Totex spend (Botex), with the exception of adjusting business rates to align with Ofwat's methodology. We had set a very stretching plan in September that already contained £196m of efficiencies from our current cost base which resulted in us being one of the most efficient companies. We believe that the frontier shift that Ofwat has set to assess the efficiency of water companies plans is too harsh; we understand and have reported to Ofwat that their modelling should be refined to allow for the costs of future growth.

We have revised our Retail expenditure improving from a 22% difference from Ofwat's view of the efficient level to less than 5%. This has been achieved through reduction in costs, particularly in bad debt where we are targeting upper quartile performance (based on data from Water Companies September Plans) and through an improved allocation of costs.

Overall, we have delivered a reduction in wholesale Totex from our September Plan on a like for like basis by £68m (excluding the additional funding for strategic regional development and the increase in leakage). We have reduced retail expenditure by £23.5m. This has contributed to the reduction in customers' bills presented in this Revised Plan.

We have been working and commit to continuing to work with Thames Water, Anglian Water, Severn Trent Water, Southern Water and United Utilities on the strategic regional development.

In this report we have set out how the sustainability reductions and river morphology projects map on to the 13 amber schemes listed in WINEP3. We have developed a table setting out the link between both sets of projects and how these map onto the 13 WINEP schemes. We provide a breakdown of the expenditure (Capex and Opex) allocated for these 13 schemes and provide clarity on how the volumes and costs relate to environmental enhancements Totex. We have also reviewed the previously submitted single unit cost, reflecting on Ofwat's feedback and consider that this number can be presented as a single unit cost for supply side measures.

We do not need to make any changes to our investment portfolio in response to the announcement of a ban on the use of metaldehyde from 30 June 2020. Our September Plan did not include investment in treatment to remove metaldehyde. However, we did include a bespoke uncertainty mechanism, which we have removed in our Revised Plan. We plan to invest in continuation and extension of our catchment management investments.

We have two catchment management investments relevant to metaldehyde that were included in our September Plan.

2 Detailed response to Ofwat feedback actions

2.1 AFW.CE.A1

2.1.1 Overview of test area action

Table 1: Action details for AFW.CE.A1

| Action Ref. | Action |
|-------------|---|
| AFW.CE.A1 | <p>We have provided our view of efficient costs for the company along with our reasoning. We expect it to address areas of inefficiency, or lack of evidence, in the revised September Plan. Where appropriate, we expect it to withdraw investment proposals if either:</p> <ul style="list-style-type: none"> - the need for investment is not compelling; or - there is no need for a cost adjustment claim beyond our existing cost baseline. |

Nature of adjustment: action completed

2.1.2 Our response

In our Revised Plan we have reflected on the challenges in the IAP and have updated our wholesale Totex and retail expenditure. We have explained below the revisions we have made to our wholesale plan, explained the requirements and assessment of our wholesale enhancement programme, our view on the wholesale Base Totex and the revisions we have made to the Retail Totex.

Revisions to Our Wholesale Enhancement Totex in Our Revised Plan

We note that Ofwat's views of efficient wholesale costs differ mostly on the enhancements in our September Plan. In our Revised Plan we are accepting Ofwat's cost general efficiency challenges on the enhancements. This is typically an efficiency of 6.1% on the relevant enhancements schemes. We have reviewed the schemes affected and these reductions will make them more challenging to deliver and increase risk, however, we consider that the schemes are deliverable with the revised costs.

We have revisited our business cases in the areas of enhancement spend where Ofwat reported that our evidence was not strong enough in the September Plan. These revised business cases explain in more detail, the need for the investments, the costs of delivering the schemes and how the need is aligned with our commitments.

We have considered further opportunities for cost efficiency and have ensured full alignment with our revised draft WRMP.

We include in our revised Totex the allocation of a regional allowance for the development of strategic supply options and we have challenged ourselves further by offering an increased ambition to reduce leakage by 18.5%, a further 3.5% from our September Plan.

We have accepted challenge on Base Totex in parts and explain below differences with Ofwat's assumptions where relevant.

Following Ofwat's IAP, our revised like-for-like enhancement Totex plan is £68.0m (excluding the additional strategic supply side options and additional costs for our reduced leakage target of 18.5%) less than our September Plan.

When including the regional allowance for strategic supply options of £52.4m (£70.9m less the £18.5m included in our September Plan for a new reservoir) and our increased ambition in leakage (£13.1m for an additional 3.5% reduction) our revised total Totex is £1,436.3m excluding grants and contribution.

The table below provides a summary of changes in our enhancements plan. Where we have revised the costs in our investment portfolio, either through acceptance of an IAP assessment or through our own review of the investment, we have updated tables WS1, WS2 and WS2a accordingly, together with the commentary provided.

Table 2 Summary of changes in our enhancements plan

| | Enhancement Totex | Change Impact | Plan change |
|---|--------------------------|----------------------|--|
| September 2018 BP | £429,955,609 | | |
| Company efficiency 6.1% | | -£3,420,609 | Morphological works Biodiversity Pesticide monitor Nitrates Sundon and Horsley Cross |
| Double count | | -£583,000 | NEP Catchment Mgmt investigations |
| Moved to base | | -£6,750,000 | Community pilot schemes Low Pressure WRMP and Drought Management Plan planning |
| Ofwat modelled rates | | -£12,456,253 | Runley Wood Green Sands Baseline WSP (Metering) Lead programme |
| Revised WRMP | | -£30,718,584 | Supply 2040 scope and costing WRMP supply/demand schemes selection |
| Regional investigations and planning | | -£11,500,000 | WRMP investigations moved to Regional strategic options development |
| Water resources strategic regional solutions | | £52,439,000 | Regional strategic options development AMP7 Investigations Delivery of gated process |
| Leakage 18.5% | | £13,100,000 | Additional 3.5% reduction in leakage |
| April 2019 BP | £430,066,163 | | |

Enhancement Totex

A fundamental part of our plan is to respond to the short and long-term challenges that we face in drought resilience and sustainability of water resources for our region through a long-term plan for demand management and supply investment. This is particularly relevant to our company as we operate in a water-stressed area.

Without such a long-term plan being implemented in AMP7, recent demand growth and further interventions to secure sustainable abstractions mean that relative to the previous WRMP and

our PR14 planning, we now face the risk of a significant shortfall of water. This is immediately focused on our largest Central supply region, with longer-term risks then extending to our Southeast supply region.

Our Central region has an immediate expected shortfall of water in 2025 of 43 MI/d, rising to 108 MI/d in 2050 to over 256 MI/d in 2080. Available water supplies are expected to continue to fall due to the impact of sustainability reductions and climate change while at the same time demand increases due to population growth. We expect approximately 1.6 million more people in our Central region by 2080.

We need to respond to these challenges now. We have done so in our revised draft WRMP. This revision represents an update on the previous draft WRMP and has been strongly shaped by the response to consultation from customers, stakeholders and regulators. Our revised draft WRMP:

- adopts a twin track approach of extensive demand management supported by large scale schemes to increase supply;
- plans to protect rare and sensitive Chalk stream habitats in the area;
- provides for delivery of timely strategic supply solutions; and
- ensures that water supplies in the area remain affordable in the long-term.

Demand strategy

- **Leakage** - Our customers have responded to our earlier dWRMP and business plan consultations and engagement with their preference for increased ambition in AMP7 for reductions in leakage whilst protecting the environment. From the direction of Ofwat and government it is also clear that leakage needs to continue to fall, especially in water-stressed regions such as ours. We therefore plan to deliver a higher reduction of leakage of 18.5% in the 2020-2025 period, through increasing the intensity of our leakage activities, innovation and efficiency. In the long term, we aim to achieve a 50% leakage reduction from its 2015 level by 2045. We will continue to develop our enhanced information to improve awareness and integration of our network responses. Accordingly, delivering leakage reduction improvements will also provide wider benefits for customers as an integral component of an ambitious long-term demand reduction strategy. We include additional information in Appendix CE.A1.16 and our proposal for the future development of a Network Response Resilience metric.
- **Per Capita Consumption (PCC)** - Our plan includes initiatives aimed at meeting a stretching PCC target of 129 l/h/d by 2025. This reduction of more than 15% over 8 years, relative to the 2016/17 average consumption of 152 l/h/d, is expected to take us towards industry leading levels by the end of AMP7. We then aim to continue reducing PCC over the long term.
- **Collaborative approach** - We will require industry-wide and policy support for the enhanced demand management in future years. To meet our ambitious PCC target levels, and seek to go beyond them in the long term, we will work collaboratively to gain positive support from government and community partners, and deliver concerted action on water efficiency options.

Supply Strategy

- **Groundwater options:** In response to stakeholder representations, we have not included any new chalk groundwater abstraction options in our rdWRMP and Revised Plan.

- **Resilience to drought:** Our rdWRMP and associated AMP7 investment plans, include the conditioning plant at Sundon, which once in operation will mean we will be resilient to a 1 in 200-year drought event without the need for reliance on the drought permits/orders for additional abstraction. This improved resilience level is expected to reduce the risk of needing drought permits/orders to less than 0.5% in any year or less than 26% over 60 years (2020 to 2080).
- **Internal transfers** – the Supply 2040 programme is an integral part of addressing the supply-demand deficit in the central region by building inter-connectivity throughout the area. This will enhance our ability to ensure water is moved to deficit areas when they arise. In response to Ofwat’s Action in the IAP, we have included additional explanatory information on our Supply2040 programme in appendix CE.A1.12.
- **Strategic supply options** – the nature and timing of strategic supply options is a key part of our planning process. We have opted to use the Adaptive Pathways Planning specifically designed to build meaningful, reliable strategies, and enabling us fully to support the development of regional solutions that can be implemented at pace.
- **Sustainability Reductions** – our investment proposals are fully aligned with the EA WINEP3 list. In response to the IAP Action, we include additional information in Appendix CE.A1.7 – CE.A1.11.

This funding of our plan for enhancements via our proposed bills is critical to addressing the challenges of sustainable water resources and enhancement of the environment, through the effective implementation of cost-effective and affordable strategies for demand and supply of water to our customers in AMP7 and for the longer term.

In summary, and as requested in action CE.A1, we confirm that our enhancement investment plan is aligned with our obligations and critical to delivering sustainable water resources, whilst further protecting the rare chalk streams in our supply area. The solutions we include have been strongly shaped by our customers, regulators, government and wider stakeholders’ preferences, established from previous consultation and engagement, including on the previous dWRMP. We include, as requested, in both this document and in our revised draft WRMP, further information on the optioneering and cost benefit analyses we have carried out.

Base Totex (Botex)

There are three elements to our response, as set out below. The Ofwat IAP view of efficient costs awarded £1,008m Botex including expenditure to reduce leakage by 15%, which we estimate to represent £35m. Our Revised Plan is seeking Botex of £1,007m but this excludes the money for 15% leakage reduction, which is instead part of £48m additional demand management plan for the 18.5% leakage reduction required as part of our rdWRMP. Included in our revised Botex is a reduction of £2.3m for business rates to bring the cost in line with CPIH instead of RPI. We acknowledge that since 2018 the business rates multiplier is no longer indexed by RPI and changed to CPIH. We have also noted that Ofwat has not included any local authority rates in the Botex allowance. We are charged a rates bill for our leased head office building for £2.0m for AMP7 (2017-18 FYA - CPIH deflated). This amount was included in our September Plan and continues to be included in our Revised Plan.

1. We strongly believe Ofwat's IAP challenge was too harsh for the sector. We, and a number of other companies have developed evidence as to why the IAP 1.5% pa frontier challenge (relative to CPIH with no RPE) was too harsh for the wholesale water service, as set out in the report included as Appendix CE.A1.14. The following table compares Ofwat's assessment with assumptions made by other regulators about frontier shift.

Table 3 Assumptions made by regulators about frontier shift

| Regulator/Review | Real Price Effects | Productivity Growth | Frontier Shift |
|--|--------------------|---------------------|--------------------|
| CC, Bristol Water, 2010 | RPI +0.65% | 0.9% | RPI -0.25% |
| Ofgem, RIIO-GD1/T1, 2012 | RPI +0.2% to +0.8% | 0.7 % to 1.0% | RPI -0.7% to +0.1% |
| CC, Northern Ireland Electricity, 2014 | RPI -1.5% to +0.8% | 1.0% | RPI -2.5% to -0.2% |
| Ofgem, RIIO-ED1, 2014 | RPI -1.4% to +0.6% | 0.7 % to 1.1% | RPI -2.3% to -0.3% |
| Utility Regulator, NI Water, 2014 | RPI +0.1% to +0.9% | 0.6 % to 0.9% | RPI -0.5% to -0.1% |
| CMA, Bristol Water, 2015 | RPI +0.5% | 1.0% | RPI -0.5% |
| Utility Regulator, GD17, 2016 | RPI +0% to +1.0% | 1.0% | RPI -1.0% to +0% |
| Ofwat, PR19, 2019 (IAP assessment) | CPIH +0% | 1.5% | CPIH -1.5% |

Source: A Review of Ofwat's PR19 Approach to Estimating Frontier Shift, John Earwaker - Regulator's documents

Note: the ranges in the table come from different calculations for different years and/or from separate calculations for Opex and Capex

This implies all companies should be allowed extra funding at Draft Determination for wholesale water Botex. Our assessment is that the frontier efficiency challenge should be no more than 1% pa. For us, this would represent £28m, around £14m less than the Ofwat IAP assessment. This implies that the Revised Plan is already close (<0.5%, below Ofwat's standard triviality threshold) to the updated IAP allowance for efficient Botex of [£1033m] even if Ofwat persists in counting 15% leakage reduction costs as Botex, so that Ofwat considers our Revised Plan Botex proposal to be £1,038m.

2. Our leakage plan is an integrated component part of our wider long-term efficient approach to securing supply-demand balance at least cost in the face of increased water stress, along with a range of other benefits including enhanced resilience in both AMP7 and the long term. The Revised Plan is fully aligned to the rdWRMP in considering this reduction as a key component of demand management, alongside the regional options for supply-investment being explored in collaboration with other companies under the funding and framework established by Ofwat in the IAP. We have worked with other companies in setting out the case for funding such leakage reductions as enhancements (see report set out in Appendix CE.A1.17) and has based its own specific PC and ODI proposals on this approach, in line with customer engagement over both the September Plan and the rdWRMP. Accordingly, when this leakage investment is removed from Botex, the Revised Plan Botex is below the unadjusted IAP allowance even with the tough 1.5% p.a. efficiency challenge. We have set out the wider benefits of leakage in appendix CE.A1.16.

3. Since the IAP publication we have established that Ofwat's modelling should be refined to allow for the costs of future growth. As we have relatively high growth in AMP7, we expect the adjusted Ofwat modelling for the Draft Determination to result in an additional £29m allowance. During our scrutiny of Ofwat's IAP and feeder models we identified this and raised a query, reference AFW_QUERY_012, to highlight this omission to Ofwat. In our September Plan we included four Cost Adjustment Claims (CACs) and we stated that we were including these claims as we were unsure as to whether the final form of the Ofwat cost assessment models would either take account of, or adequately allow for them. In our Revised Plan, we have retained CACs for transience and regional wages, which are material drivers of our costs worth £22.6m over the AMP, that we believe Ofwat should allow for in its assessment. We provide further information in appendices CE.A1.13 and CE.A1.15. Once Ofwat confirms the final sector modelling adjustments it proposes to make at Draft Determination then these CACs may be rendered (as a basis for adjusting Ofwat's baseline) unnecessary in due course.

We have reviewed the Botex in our September Plan and the efficiencies that we committed to. We continue to believe that this is a very stretching but ultimately achievable plan that will require the delivery of £196m of efficiencies over AMP7 against our current cost base. We believe that committing to further efficiencies would risk the deliverability of the overall plan, as well as not being achievable in themselves.

This challenge is already incorporated in our plan through £86m of organisational design and project management efficiencies; £75m of unit cost and productivity efficiencies by ensuring we have the right supplier mix and optimised contracts; £20m of procurement savings through beating inflationary price-rises and finally £14m of energy cost savings by optimising our production sites.

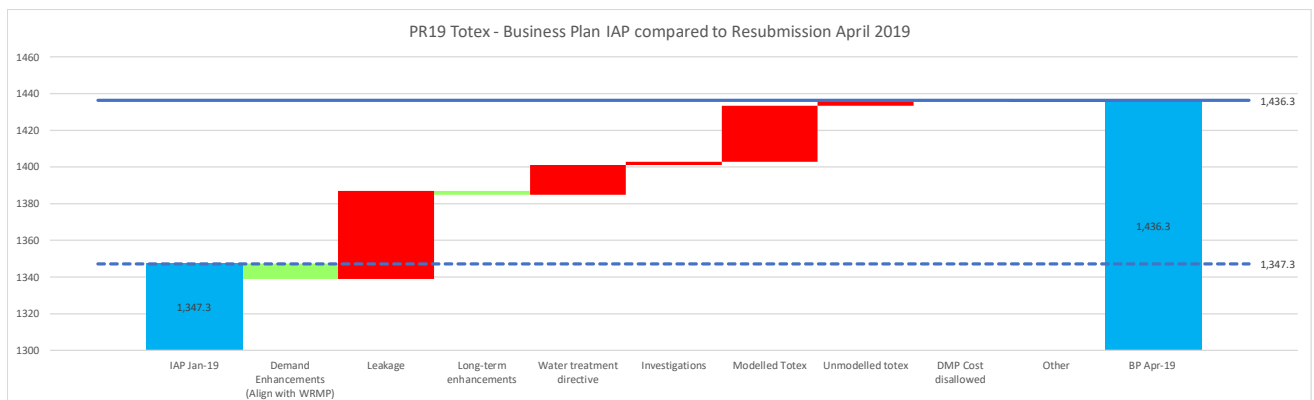
To achieve these efficiencies, we will spend £25m on capital investment, IT and research to deliver innovation, so as to reduce our in-field unit costs and increase productivity in our support functions; we will also spend £20m on long-term renewable energy solutions, the benefits of which will continue beyond AMP7.

Given the above factors, we are confident that the base expenditures in our Revised Plan remain efficient on the criteria set out by Ofwat in the methodology and IAP.

Summary of IAP Wholesale Totex Challenge

A summary of the differences within our Revised Plan for wholesale Totex against IAP is shown in the waterfall below.

Table 4 Wholesale Totex differences



Demand Enhancements – In our rdWRMP we have revised the demand enhancements and we have updated our Revised Plan to reflect these. This revision removed a number of the more expensive schemes and has resulted in a unit rate of reduction below Ofwat’s target levels and therefore a reduction of £8.6m against the IAP and £14.6m against our September Plan.

Leakage – We have retained the £35.1m of leakage expenditure from our September Plan which was removed in the IAP. Our revised draft WRMP cost benefit analyses show that demand management options provide the best value for customers under all scenarios. Leakage reduction is a key component of the demand-side options to reduce the deficit and is the most cost-effective solution. The leakage reduction also leads to wider benefits for calming the network. We explain our justification for this above in our Base Totex section of this papers and in the wider benefits of leakage appendix CE.A1.16. We have added an additional £13.1m of additional expenditure associated with the increase in leakage from our September Plan from 15% to 18.5%.

Long-term enhancements – We have accepted the efficiency challenges in the IAP which includes the investment in the Sundon plant. We have also revised down our costs for supply 2040 in line with the draft water resources management plan. This results in a reduction from the IAP of £2.0m and a reduction from our September Plan of £11.8m.

Water Treatment Directive – We have not taken the 20% challenge in the IAP in this area. This challenge was given as Ofwat did not believe that our September Plan provided the information required in this area. We have revised our business case providing the information that we believe fully justifies and explains the costs in this area. This is detailed in the business cases appended to this document. We have included in our Revised Plan the same value as our September Plan and therefore a difference to the IAP of £16.2m.

Modelled Totex – We have not adopted the IAP reduction in the modelled Totex (Botex) for the reasons explained above. Principally this is for three reasons;

- i. we believe that the frontier shift that Ofwat has been set to assess the efficiency of water companies plans is too harsh;
- ii. we understand and have reported to Ofwat that their modelling should be refined to allow for the costs of future growth; and
- iii. we have taken the opportunity to review our Base Opex, confirming that we had set a challenging Botex for AMP7, delivering £196m of efficiencies from current costs.

We therefore retain the £902.1m of modelled Botex from our September Plan resulting in a difference to the IAP of £30.7m

Unmodelled Totex – We have adjusted the calculation for business rates in line with the IAP as explained above. This results in a reduction against our September Plan of £2.3m. We have retained the costs from our September Plan on the other items and therefore the value is higher than the IAP by £2.5m.

Overall we have reduced from September Plan by £68.0m. To this we have added the £52.4m provided by Ofwat for strategic supply options, supply side options and additional costs for our reduced leakage target of 18.5%.

Retail Expenditure

Ofwat reported in their IAP that the Retail expenditure of £169m in our September Plan, was £30.2m, 22% inefficient. In our Revised Plan, retail expenditure has reduced by £23.5m to £145.5m. This reduces the inefficiency against the IAP from 22% to 4.8% and moves bad debt performance to upper quartile.

We have also completed a full review of our accounting allocation to Retail, benchmarking costs and methodologies to other water companies. We believe that part of this efficiency gap relates to assumptions applied to the allocation of costs to retail that do not align to the industry, and therefore in some costs areas have resulted in our expenditure for Retail being out of line with the sector. We have made changes in our Revised Plan that aligns these items. Appendix CE.A1.18 details these changes and the approach taken. The paper in this appendix formed part of a Board paper on PR19 Wholesale Totex and Retail Expenditure. The changes in allocations were reviewed and approved by the Board.

The reduction in expenditure of £23.5m can be explained by:

- reduction of our metering costs following a full review and benchmarking exercise which has allocated additional costs to the non-appointed business thereby reducing appointed costs (£8.0m);
- significantly reducing bad debt to target upper quartile in the industry (£6.1m);
- building in additional data segmentation, benchmarking and debt advisor costs to achieve the above bad debt target of upper quartile (£1.8m);
- conducting a full reappraisal of our base retail costs in our September Plan, and making the following revisions, costing an additional £0.6m over AMP7. The nature of the costs have been adjusted to focus on front line delivery with leaner back office and support functions. This increase in cost is made up of;
 - A reduction in back office, support and analysis costs (£1.3m);
 - A reduction in the operations contact centre progressively over AMP7 as we improve service in the field, removing the cost of failure (£1.4m);
 - An increase in cost to strengthen our front-line support and customer contact to enable strong C-Mex delivery in AMP7 (£3.4m)
- changing allocation of depreciation of wholesale assets used by Retail (£11.9m). This adjustment is not expected to have any financial effect on our cost to serve.

Cost Adjustment Claims

In our September Plan, we included four Cost Adjustment Claims (CACs) and we stated that we were including these claims as we were unsure as to whether the final form of the Ofwat cost assessment models would either take account of, or adequately allow for them. In our Revised Plan we have retained CACs for transience and regional wages, which are material drivers of our costs worth £22.6m over the AMP, that we believe Ofwat should allow for in its assessment. We provide further information in Appendices CE.A1.13 and CE.A1.15. Once Ofwat confirms the final sector modelling adjustments it proposes to make at Draft Determination then these CACs may be rendered (as a basis for adjusting Ofwat's baseline) unnecessary in due course.

2.1.3 Implications across the plan

The implications of our response are significant. We are accepting Ofwat's cost efficiency challenge on a number of enhancement schemes, as well as considering further opportunities for cost efficiency. We have challenged ourselves to go further on leakage reduction and accepted the allocation of the regional allowance for the development of strategic supply options. We have also accepted in part, the challenge on Base Totex. Finally, we have substantially reduced our retail expenditure. The overall impact is definitively delivering more for less with the headline bill impact moving to annual reduction in average bills of 0.3% per annum.

2.1.4 Assurance

External assurance of these investment business cases was carried out by Atkins in March 2019 - *PR19 Assurance Report Investment Case Supplement March 6th*.

2.1.5 Evidence

Table 5 Evidence to support the response to AFW.CE.A1

| Appendix | Description |
|--|--|
| CE.A1.1 – Response to Ofwat's IAP | Summary of response to Ofwat's IAP showing cost efficiency challenges accepted / not accepted. |
| CE.A1.2 - Strategic Supply Transfer Scheme _Supply2040 | Strategic Supply Transfer Scheme (Supply2040) Business Case |
| CE.A1.3 - Catchment management: Drinking Water Quality Plans | Catchment management: Drinking water quality plans business case |
| CE.A1.4 - Catchment management: Groundwater Pesticides | Catchment management: Groundwater Pesticides business case |

| Appendix | Description |
|---|--|
| CE.A1.5 - Catchment management: Nitrate affected sources | Catchment management: Nitrate affected sources business case |
| CE.A1.6 - Catchment management: River Thames Pesticides | Catchment management: River Thames Pesticides business case |
| CE.A1.7- Sustainability Reductions Brett Community (WRZ8) | Sustainability Reductions – Brett Community (WRX8) business case |
| CE.A1.8 - Sustainability Reductions: Misbourne Community (WRZ1) | Sustainability Reductions: Misbourne Community (WRZ1) |
| CE.A1.9 - Sustainability Reductions: Colne & Pinn Community (WRZ2 & WRZ4) | Sustainability Reductions: Colne & Pinn Community (WRZ2 & WRZ4) |
| CE.A1.10 - Sustainability Reductions – Lee Community (WRZ3) | Sustainability Reductions – Lee Community (WRZ3) |
| CE.A1.11 - Sustainability Reductions – Stort Community (WRZ5) | Sustainability Reductions – Stort Community (WRZ5) |
| CE.A1.12 - AFW PR19 Technical Assurance Report – Final Investment Case Supplement | The Atkins Technical Assurance Report of our business cases |
| CE.A1.13 – Regional wages study | Regional wages study |
| CE.A1.14 – First Economics report on frontier efficiency | First Economics report on frontier efficiency |
| CE.A1.15 – Transience study | Transience study |
| CE.A1.16 – Leakage enhancement need and wider benefits | Leakage enhancement need and wider benefits |
| CE.A1.17 – NERA Economic Consulting - Assessing Ofwat’s Funding and Incentive Targets for Leakage Reduction | NERA Economic Consulting - Assessing Ofwat’s Funding and Incentive Targets for Leakage Reduction |

| Appendix | Description |
|----------------------------------|---|
| CE.A1.18 – Cost Allocation Paper | A Board paper presented to the Board on 14 March detailing the review and changes in cost allocations |

2.2 AFW.CE.A2

2.2.1 Overview of test area action

Table 6 Action details for AFW.CE.A2

| Action Ref. | Action |
|-------------|---|
| AFW.CE.A2 | <p>Strategic regional solution development - We have identified from the plans that at least one strategic supply solution is required over the next 5-15 years to secure drought resilience in the south-east. The strategic regional solution development allocation is to allow the delivery of consistent and transparent investigations, planning and development of strategic options with the overall aim of optimum solutions being construction ready by 2025. The company's allocation is made on the basis of having clear deliverables and customer protection for the gated delivery of the development of Abingdon reservoir, a regional transfer from Thames Water, and an eastern regional solution/transfer. The following actions are required to ensure the efficient delivery of this development programme:</p> <ul style="list-style-type: none"> · In conjunction with the other companies involved, jointly propose methods for collaborative working including setting up the joint working group for individual schemes, and how consistent assumptions and decisions will be made within these groups and between them. · Provide more detail on the gated process, the deliverables, timings and expenditure allocations at each gate · Propose ODI-type mechanisms to allow allocated funding to be recovered by customers in the event of the scheme not progressing through each gate and for the non-delivery or late delivery of outputs. |

Nature of adjustment: alternative approach

2.2.2 Our response

To ensure the efficient delivery of the strategic regional solution development we have started and will continue to work in close collaboration with Thames Water, Anglian Water, Severn Trent Water, Southern Water and United Utilities.

The companies have met as a group and provide the following statement:

During February and March Affinity Water, Anglian Water, Severn Trent Water, Southern Water, Thames Water and United Utilities have worked together to develop a set of proposals that seek to address the potential challenges associated with the promotion of strategic regional solutions as set out in Ofwat's initial assessment of plans.

The group of companies have collaborated to develop a set of principles, working documents and discussion papers which demonstrate how the gated process would work for the promotion of a regional scheme.

Further work has been identified which the companies will continue to work together to address.

In appendix CE.A2.1 we include a report as the work done to date by the group, which was chaired by Water Resources in the South East (WRSE).

The report includes how we have jointly assessed, reviewed and provided constructive comments and shows how we have addressed the actions for developing regional strategic solutions as set out by Ofwat in the IAP.

It also includes a forward programme of work for the group where we will address the allocation of expenditure on a scheme by scheme basis with an accompanying ODI type mechanism by May 2019.

For Affinity Water the strategic regional schemes included are listed as follows:

- South East Strategic Reservoir (SESR)
- A regional transfer from Thames to Affinity
- The Grand Union Canal scheme
- A regional transfer from Anglian to Affinity

| Scheme | DCO | Non DCO | Comment on modifications |
|-----------------------------------|-----|---------|--|
| SESR | Yes | No | The scheme qualifies for a DCO and can follow the generic gated process. In line with the other companies we propose that Stage Gate 3 takes us to the point where the DCO planning application documents are prepared. The actual DCO application process then falls within AMP8, with a proposed 'Stage Gate 4'. |
| Transfer from Thames to Affinity | No | Yes | The Thames to Affinity transfer and the GUC transfer schemes will need modified stage gates as a result of their nature and interactions (See Figure 1 for the GUC example) |
| Grand Union Canal scheme | No | Yes | |
| Transfer from Anglian to Affinity | No | Yes | This scheme is likely to be a non DCO scheme, so will follow the generic gated process and timelines for a non DCO scheme |

Figure 1 below shows which of our strategic regional options fall into which category (see appendix CE.A2.2 for further information).

As shown in figure 1 for the GUC scheme there is a requirement for water quality and ecological monitoring and investigation, which is separated into an initial stage, with further work required at Stage Gates 2 and 3.

The Thames-Affinity transfer scheme will need to run parallel to the SESR. Stage Gate 2 will therefore contain the ESIA scoping and pre-planning activities, but will not proceed to application. Gate 3 will consist of the creation of ESIA and planning documentation, but will not include planning submission or determination.

| The GUC Example | | | |
|----------------------------|--|--|---|
| Gate Completion (Yr/March) | Gate 1 (2022) | Gate 2 (2023) | Gate 3 (2024/25) |
| | 2020 to 2022 | 2022 to 2023 | 2023 to 2024/25 |
| Activity between the gates | Agree high level SEA for all scheme elements | ESIA scoping and continuation of water quality and ecological monitoring | Prepare ESIA and planning application documentation |
| | Water quality and ecological monitoring | | Procurement activities |
| | Develop consistent, robust costs for initial scheme design | Licence application discussions | Detailed planning design |
| | Scheme deliverability, impacts on flows, source assessment | Further scheme design changes and final costing | |
| | Cost benefit with other options (WRMP/WRSE) | | |
| Dependency | dWRMP23 / WRSE | rdWRMP23 | PR24 |

Figure 1. The gated process, including deliverables and timings for the GUC scheme

2.2.3 Implications across the plan

This action has links to AFW.CMI.A1 which describes how all interested parties and other stakeholders (i.e. not just water companies involved in the strategic options) are engaged effectively. AFW.CMI.A1 is also concerned with ensuring that the Revised Plan and the revised Water Resources Management Plan aligns, including the demand and supply side elements.

2.2.4 Assurance

No external assurance required.

2.2.5 Evidence

| Appendix | Description |
|------------------|--|
| Appendix CE.A2.1 | All Company Working Group (ACWG). Joint statement on strategic regional solution development |
| Appendix CE.A2.2 | Affinity Water Scheme Review |

2.3 AFW.CE.A3

2.3.1 Overview of test area action

Table 7 Action details for AFW.CE.A3

| Action Ref. | Action |
|-------------|---|
| AFW.CE.A3 | <p>We require further clarity on the company's proposals for a cost adjustment mechanism for the Amber WINEP schemes included in its investment programme. The company should therefore advise how the sustainability reductions and 28 river morphology projects referred to in section 10.19 of Appendix 10 map on to the 13 Amber schemes listed in WINEP3.</p> <p>The company should also provide a breakdown of the expenditure (Capex and Opex) allocated for these 13 schemes between lines in Tables WS2.</p> <p>We also need clarity on how the volumes and costs set out in the tables in section 10.19.1 relate to the corresponding data in the table on p68 of Appendix 6.</p> <p>Finally, the company should explain why it considers it appropriate to propose a single unit cost for supply and demand-side measures rather than separate unit costs given the differing nature of the work and costs involved.</p> |

Nature of adjustment: action completed

2.3.2 Our response

Query 1: To advise how the sustainability reductions and 28 river morphology projects referred to in section 10.19 of appendix 10 map on to the 13 amber schemes listed in WINEP3 we have developed a table setting out the link between both sets of projects and how these map onto the 13 WINEP schemes listed in WINEP3. Please see appendix CE.A3.1 (Q1).

Query 2: In appendix CE.A3.1 (Q2) we provide a breakdown of the expenditure (Capex and Opex) allocated for these 13 schemes between lines in Tables WS2 and have detailed scheme level expenditure in red.

Query 3: To provide clarity on how the volumes and costs set out in the tables in section 10.19.1 relate to the corresponding data in the environmental enhancements Totex summary table on p68 of Appendix 6 (Wholesale Technical Support Document) we have produced an additional table in Appendix CE.A3.1 (Q3) to clearly set out the green and amber sustainability reductions by volume and cost in the different areas (Central and East).

Query 4: We have reviewed the previously submitted single unit cost reflecting on Ofwat's feedback and consider that this number can be presented as a single unit cost for supply side measures only as shown in appendix CE.A3.1 (Q4). The demand side measures have been removed as they are not uncertain (as is the case for amber sustainability reductions) and will be delivered under all eventualities. Moreover when we looked at the type of work that would be most appropriate to tackle the sustainability reductions at each source we identified a reasonable degree of variation in the nature and type of supply side solution that would be most effective to meet the planned outcome. We propose to have a single unit cost for undertaking amber sustainability reductions supply side measures in our Central region and a separate single unit

cost for undertaking amber sustainability reductions supply side measures in our East (Brett) region reflecting the different cost per megalitre in each region.

2.3.3 Implications across the plan

For Query 1, the response advocated is to show the relationship between the two tables in our Revised Plan. This can be seen in appendix CE.A3.1 (Q1) response.

The proposed response to Query 4 advocates a change to the Environmental Uncertainty Mechanism as explained in the September Plan and proposed change tables below and in Appendix CE.A3.1 (Q4) response.

Table 8 Environmental Uncertainty Mechanism – proposed at submission

| Environmental Uncertainty Mechanism | Linked Outcome | Unit | Unit Cost Adjustment (£m) |
|--|--|-----------------------------------|---------------------------|
| WINEP 3 "amber" sustainability reductions not required | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | -3.710 |
| WINEP 3 "amber" river morphology projects not required | Making sure you have enough water, while leaving more water in the environment | Project unit | -0.331 |

| Investment | Total Cost (£m) | Volume (MI/d) | Unit Cost (£m/MI/d) |
|---|-----------------|---------------|---------------------|
| Supply/asset side - cost of changing our assets to address loss of resource | | | |
| Central - changes to zones where resources are lost | 49.72 | 33.71 | 1.47 |
| East - replace lead pipes to prevent discolouration allowing more use of Ardleigh water | 8.70 | 2.60 | 3.35 |
| Cost of adapting assets to address lost resource | 58.42 | 36.31 | 1.61 |
| Replacement water (demand side or strategic transfer) | | | |
| Baseline metering | 69.35 | 26.06 | 2.66 |
| Water efficiency and behavioural change | 70.88 | 33.55 | 2.11 |
| Leakage reduction | 35.00 | 24.30 | 1.44 |
| Strategic transfer of water | 36.67 | 17.00 | 2.16 |
| Total | 211.89 | 100.91 | 2.10 |
| Total | | | 3.71 |

| Investment | Total Cost (£m) | Number of Projects | Unit Cost (£m) |
|---------------------------|-----------------|--------------------|----------------|
| River morphology projects | 9.27 | 28 | 0.331 |

| Uncertainty | Linked Outcome | Unit | Indicative Unit Cost Adjustment (£m) | Indicative Total Cost (£m) |
|--|--|-----------------------------------|--------------------------------------|----------------------------|
| Sustainability reduction not on WINEP3 in Brett Region (from 2.6 MI/d to 3.7 MI/d) | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | 3.35 | 3.69 |
| Sustainability reduction not on WINEP3 in Brett Region (from 3.7MI/d to 20.0 MI/d) | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | 6.67 | 108.72 |

Table 9 Environmental Uncertainty Mechanism – change proposed in this response

| Environmental Uncertainty Mechanism | Linked Outcome | Unit | Unit Cost Adjustment (£m) |
|---|--|-----------------------------------|---------------------------|
| WINEP 3 "amber" sustainability reductions not required Central region | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | -0.042 |
| WINEP 3 "amber" sustainability reductions not required East region | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | -3.260 |
| WINEP 3 "amber" river morphology projects not required | Making sure you have enough water, while leaving more water in the environment | Project unit | -0.331 |

| Investment | Total Cost (£m) | Volume (MI/d) | Unit Cost (£m/MI/d) |
|--|-----------------|---------------|---------------------|
| Supply/asset side - cost of changing our assets to address loss of resource | | | |
| Central - changes to zones where resources listed as "amber" are lost | 0.27 | 6.38 | 0.042 |
| East - replace Galvanised Iron pipes to prevent discolouration allowing more use of Ardleigh water | 8.45 | 2.60 | 3.26 |
| Cost of adapting assets to address lost resource | 58.42 | 36.31 | 1.61 |
| Replacement water (demand side or strategic transfer) | | | |
| Baseline metering | 69.35 | 26.06 | 2.66 |
| Water efficiency and behavioural change | 70.88 | 33.55 | 2.11 |
| Leakage reduction | 35.00 | 24.30 | 1.44 |
| Strategic transfer of water | 36.67 | 17.00 | 2.16 |
| Total | 211.89 | 100.91 | 2.10 |
| Total | | | 3.71 |

| Investment | Total Cost (£m) | Number of Projects | Unit Cost (£m) |
|---------------------------|-----------------|--------------------|----------------|
| River morphology projects | 9.27 | 28 | 0.331 |

| Uncertainty | Linked Outcome | Unit | Indicative Unit Cost Adjustment (£m) | Indicative Total Cost (£m) |
|--|--|-----------------------------------|--------------------------------------|----------------------------|
| Sustainability reduction not on WINEP3 in Brett Region (from 2.6 MI/d to 4.6 MI/d) | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | 3.26 | 6.52 |
| Sustainability reduction not on WINEP3 in Brett Region (from 4.6MI/d to 20.0 MI/d) | Making sure you have enough water, while leaving more water in the environment | MI/d of deployable output reduced | 6.67 | 102.72 |

2.3.4 Assurance

Following an internal peer review process, the information provided has been subject to an external assurance audit from Atkins in March 2019.

2.3.5 Evidence

Table 10 Evidence to support the response to AFW.CE.A3

| Appendix | Description |
|--|---|
| CE.A3.1 - Amber WINEP Queries Response | Responses to matters arising in action reference AFW.CE.A3. |

2.4 AFW.CE.A4

2.4.1 Overview of test area action

Table 11 Action details for AFW.CE.A4

| Action Ref. | Action |
|-------------|--|
| AFW.CE.A4 | There may be significant impacts in terms of investment or type of investment as a result of the metaldehyde ban. The company should investigate and agree with the DWI the scale and timing of any potential changes compared to its submitted plans. Significant changes and uncertainty may require an outcome delivery incentive to protect customers in the instance of expenditure not being required. Should the company propose a performance commitment and outcome delivery incentive, the company should provide evidence to justify the level of the performance commitment and the outcome delivery incentive rates proposed, in line with our Final Methodology. We expect to receive evidence of customer support for outperformance payments, where proposed, and that the incentive rates proposed are reflective of customer valuations. |

Nature of adjustment: no longer applicable

2.4.2 Our response

We do not need to make any changes to our investment portfolio in response to the announcement of a ban on the use of metaldehyde from 30 June 2020. Our September Plan did not include investment in treatment to remove metaldehyde. We addressed metaldehyde in two ways:

- inclusion of a bespoke uncertainty mechanism, which we have removed in our Revised Plan; and
- investment in continuation and extension of our catchment management investments, which we have retained in our Revised Plan.

We have two catchment management investments relevant to metaldehyde that were included in our September Plan. We have not made changes to these investments in our Revised Plan for the following reasons:

- Catchment Management: River Thames Pesticides – this investment is not specific to metaldehyde; it is investment in managing a range of pesticides that are detected in the raw water that we abstract from the River Thames. As such, even though metaldehyde is expected to be addressed through the ban this investment will still be required to address other pesticides (see further Appendix CE.A1.6).
- Catchment Management: Groundwater Pesticides – this investment is not specific to metaldehyde; it is investment in managing a range of pesticides that mitigate risk to our groundwater sources in Hertfordshire. As such, even though metaldehyde is expected to be addressed through the ban the need for this investment will remain (see further Appendix CE.A1.4).

We will be re-submitting our existing undertakings in respect of metaldehyde to DWI. These are consistent with DWI's Information Letter 3/2018 and DWI's letter to us dated 9 January 2019. They will cover the same water supply zones as currently, include commitments to continue

catchment management and monitoring and will extend to 2025. DWI has indicated that the undertakings will be released early if evidence shows the ban to have been effective.

We did not have a performance commitment in our September Plan relating to delivery of catchment management. We reviewed whether we should include a Performance Commitment in our Revised Plan and decided not to add one. We concluded that we do not need to include a specific mechanism to protect customers because we do not believe there is uncertainty regarding the need for our catchment management investments because it is included in WINEP3. These investments target pesticides other than metaldehyde and therefore the metaldehyde ban does not remove the need for this expenditure.

The linked response to this question is set out in AFW.RR.A4.

2.4.3 Implications across the plan

No implications across the plan.

2.4.4 Assurance

No further assurance is required.

2.4.5 Evidence

Table 8 Evidence to support the response to AFW.CE.A4

| Appendix | Description |
|---|--|
| CE.A4.1 – DWI Letter | Letter advising ban on outdoor use of metaldehyde |
| CE.A4.2 – Metaldehyde Follow Up Letter | Letter to inform approach for the revision of our undertakings for metaldehyde |
| CE.A1.4 - Catchment management: Groundwater Pesticides | Catchment management: Groundwater Pesticides business case |
| CE.A1.6 - Catchment management: River Thames Pesticides | Catchment management: River Thames Pesticides business case |

3 Appendices

All the appendices listed below for this evidence document are included in the appendices titled AFW Securing Cost Efficiency Appendix.

Table 12 Full summary of Securing Cost Efficiency appendices

| Appendix | Action ref(s) |
|---|-------------------------|
| CE.A1.1 – Response to Ofwat’s IAP | AFW.CE.A1 |
| CE.A1.2 - Strategic Supply Transfer Scheme _Supply2040 | AFW.CE.A1 |
| CE.A1.3 - Catchment management: Drinking Water Quality Plans | AFW.CE.A1 |
| CE.A1.4 - Catchment management: Groundwater Pesticides | AFW.CE.A1, AFW.CE.A4 |
| CE.A1.5 - Catchment management: Nitrate affected sources | AFW.CE.A1 |
| CE.A1.6 - Catchment management: River Thames Pesticides | AFW.CE.A1, AFW.CE.A4 |
| CE.A1.7- Sustainability Reductions Brett Community (WRZ8) | AFW.CE.A1 |
| CE.A1.8 - Sustainability Reductions: Misbourne Community (WRZ1) | AFW.CE.A1 |
| CE.A1.9 - Sustainability Reductions: Colne & Pinn Community (WRZ2 & WRZ4) | AFW.CE.A1 |
| CE.A1.10 - Sustainability Reductions – Lee Community (WRZ3) | AFW.CE.A1 |
| CE.A1.11 - Sustainability Reductions – Stort Community (WRZ5) | AFW.CE.A1 |
| CE.A1.12 - AFW PR19 Technical Assurance Report – Final Investment Case Supplement | AFW.CE.A1 |

| Appendix | Action ref(s) |
|---|---------------|
| CE.A1.13 – Regional wages study | AFW.CE.A1 |
| CE.A1.14 – First Economics report on frontier efficiency | AFW.CE.A1 |
| CE.A1.15 – Transience study | AFW.CE.A1 |
| CE.A1.16 – Leakage enhancement need and wider benefits | AFW.CE.A1 |
| CE.A1.17 – NERA Economic Consulting - Assessing Ofwat's Funding and Incentive Targets for Leakage Reduction | AFW.CE.A1 |
| CE.A1.18 - Cost Allocation Paper | AFW.CE.A18 |
| CE.A2.1 – All Company Working Group (ACWG). Joint statement on strategic regional solution development | AFW.CE.A2 |
| CE.A2.2 - Affinity Water Scheme Review | AFW.CE.A2 |
| CE.A3.1 – Amber WINEP Queries Response | AFW.CE.A3 |
| CE.A4.1 – DWI Letter CED | AFW.CE.A4 |
| CE.A4.2 – Metaldehyde Follow Up Letter | AFW.CE.A4 |