

WSX-C08 – Enhancement costs – supply schemes

Response to
Ofwat's PR24 draft
determination



Wessex Water
YTL GROUP

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Representation reference: **WSX-C08**

Representation title: **Enhancement costs – supply schemes**

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1. Summary

The funding allocated to water resources enhancement costs for supply schemes from our requested £22.86m down to £9.09m.

The reductions to the requested allowance were based on two assessments. First, a unit cost benchmarking model which reduced the overall options allowance from £22.86m down to £13.96m. Second, the ‘adaptive pathway’ option funding was reduced by £4.87m, leaving Wessex Water with a DD allowance of £9.09m.

Wessex Water disagree with some aspects of the Draft Determination allowance reductions and would like to challenge the methods and rationale for the reductions they have applied to CW8 supply side schemes, in relation to both the unit-cost model and the adaptive pathway decision. These issues are summarised here and expanded upon in the sections below.

We challenge the unit cost benchmarking model approach that was used, as we consider it is too crude relative to the detail necessary to properly evaluate the cost of options, and does not correctly represent options that are combination of different high-level categories (e.g. options containing a new import and several transfers). Within the approach applied, some options were also categorised incorrectly, using different categories in PR24 compared to the WRMP24 categories. Accounting for the complexity of the options correctly within the unit cost benchmarking model on a component basis represents a more robust approach. We have provided more detail in Table 1 and 2 on options that have had incorrect categories applied to them within the unit cost benchmarking model and the scheme detail required to provide accurate assessments of cost.

Wessex would also like to challenge the position on adaptive pathway options. As per the long-term delivery strategy guidance¹, all ‘pathways’ that are alternative to the core pathway, including the preferred pathways (or as referred to in the guidance as their central or “most likely” pathway”), should be incorporated into the plan as alternative pathways. The logic therefore applied to differentiate between options on central/preferred plans and other alternative pathways is not consistent. There is also no justification as to why 2025/26 funding is considered base activity for the adaptive pathways and not the preferred pathway, which is arbitrary simply on the basis of the year in which the funding is requested. As per the Water Resources Management Plan (WRMP) process – we are awaiting permission from Defra to publish the WRMP as a final plan - funding is essential to be able to progress schemes beyond the level of design produced for a water resources management plan, and therefore to keep the alternative pathways open ahead of the trigger point – which is in fact in 2030 not 2027-28 – to be able to appropriately de-risk the impact of future uncertainties on delivery of essential environmental improvements through reduction of existing licences.

Nevertheless, we do recognise the uncertainty towards the end of the planning period will be reduced, and that from 2027/28 following the publication of the draft WRMP, there will be more certainty on which schemes need to be delivered, noting that there will still be residual uncertainties on approval of the chosen schemes across regulators.

Our rationale for our proposed changes are summarised below:

- Revised option costs for some schemes following Defra’s letter on the WRMP in December 2024.
- Removed option costs from years 4 and 5. Where appropriate we will utilise transitional funding allowances later in AMP8 as the options develop and we have more certainty on ‘adaptive pathway’ options

¹ Page 7 - [PR24-and-beyond-Final-guidance-on-long-term-delivery-strategies_Pr24.pdf \(ofwat.gov.uk\)](#)

- Option costs have been re-profiled based on a review of the option lead times where it is possible to delay commencement of some options relative to the time of implementation, as opposed to commencing work as early as possible in AMP8.

2. Ofwat's approach to setting allowances

2.1. Fit of Ofwat's chosen model

2.1.1. Model challenge

The fit of unit cost benchmarking (cost efficiency) model for CW8 water resources supply schemes can be improved by taking a more granular approach to cost assessment and benchmarking. Currently, the modelling is not granular enough to be able to accurately and adequately assess cost efficiency of options.

The model categorises each supply option into option types (Treatment, Ground and Surface Water, Transfer (not IC), Reservoir, Licence Trading and Other). For each water company and each option type, the model calculates a unit cost based on the total cost of options falling in that option type and the sum of the benefit of these options. The overall unit cost of each option type is the median of the unit costs across all water companies.

The option types are then further grouped into complexity categories (Base activity scheme, Low, Medium and High) and the unit cost for each complexity category is reassessed taking the median of the unit costs across all water companies.

This median value, obtained from all of the options proposed by each company has then been applied to all options of that category and then attributed to the corresponding complexity value.

We found the above approach did not accurately assess our water resources supply options costs for the following reasons:

- 1. Inconsistent option type**

The option type assigned to Wessex Water supply options is not always consistent with the option category assigned to the option in the WRMP tables.

- 2. Underestimated complexity of options**

The complexity category approach used in the model is not at a granular enough level and therefore does not allow for a proper consideration of the complexity of options that may be in the same option type at a high level, but are characterised by very different complexities that ultimately drives their costs. Furthermore, it derives a median based on options that belong to different option types.

- 3. Misleading total option benefit**

Deriving the unit base cost based on the total benefit for the options does not truly represent the option complexity. Many of Wessex Water options are combinations of multiple components – e.g. treatment works improvements and new pipelines, that have been selected in the WRMP process.

- 4. Annual Average (AA) vs Critical Period (CP) options benefit**

The option benefit used to derive the unit cost model uses mostly annual average benefit. This underestimates the design capacity of the option, and therefore its unit cost efficiency, if it is driven by the need to deliver against meeting a critical period deficit, as defined in the water resources management plan.

2.1.2. Evidence supporting our rationale

1. Inconsistent option type

The options listed in Table 1 have been incorrectly categorised in the unit base model, where the option type does not match the option category assigned in our WRMP tables.

This incorrect classification of option type leads to two of the options listed in the table below, 'Underutilised licence - North Warminster' and 'Underutilised licence – Bath Source', being classified as Licence trading options and therefore low complexity options instead of Ground and Surface Water options (medium complexity). If the options would be correctly classified, they would have a higher unit cost assigned to them.

Table 1 – Options incorrectly categorized in Ofwats unit cost benchmarking model

Option name	WRMP24 category	Ofwat PR24 unit base model category	AMP8 CAPEX – Core pathway	APM8 CAPEX – Adaptive pathway	DD allowance	Difference
North Grid to South Grid reinforcements – 5.5MI/d	Internal potable transfer	Ground and Surface Water	£0	£1.591	£0.155	-£1.436
Increased Reservoir Capacity and East Transfer	Water treatment works capacity increase	Reservoir	£3.812	£0	£1.447	-£2.365
Underutilised licence - North Warminster	Groundwater enhancement	License trading	£0.052	£0	£0.037	-£0.015
Underutilised licence - Bath Source	Groundwater enhancement	License trading	£0	£0	£0	£0

However, due the complexity of the options (more details on each option can be found in Annex 1) assigning a single category to each option doesn't allow to represent to true cost effectiveness of it. This point is discussed in more detailed in the next section (2. Underestimated complexity of options).

2. Underestimated complexity of options

The unit base model approach does not take into account options which have multiple aspects to them – e.g. treatment processes and transfers – and does not therefore appropriately benchmark the costs of those individual elements across companies.

The complexity value attributed to different option categories can be misleading and the final unit cost based on complexity is derived using a median cost grouping the cost of schemes that belong to different option types.

The approach taken can be built upon to provide a more accurate cost efficiency challenge. Each option should be assessed on its specific details that, "bottom up", build the total cost of the option, rather than being assessed against others of the same high-level category. For example, a transfer option could have varying degrees of complexity, depending upon many different geographical aspects of the option (e.g. topography, distance, land use) which in turn will adjust the complexity of the option based on the assets required (e.g. break tanks, PRVs, twin main crossings, service reservoirs, dosing stations, booster stations and overall pipe capacity) to move the water over that topography and past those obstacles, and therefore the total cost of that component. The scheme costs produced as part of the WRMP and business plan have reflected this complexity and have been build using cost models developed with and by ChandlerKBS cost consultants based on individual scheme components. To illustrate why this is important, across transfer options included in our feasible options list, we find that distance multiplied by pipe diameter explains 0.75% of the variance in option cost, with the remainder depending on other

factors relating to topography (service reservoirs and pump stations) as well as the number of crossings and their complexity. Any comparison of cost efficiency across companies should use these important design details to identify if a cost is efficient or not, across all different types of option.

The scheme designs themselves, and the component parts of them, were developed as part of the scheme optioneering, as documented in our Water Resources Management Plan (WRMP), which justified both the scheme design of the feasible options, the need for those schemes, and the justification for the selection of the schemes in CW8 across pathways as part of the overall best-value plan. We received representations from Ofwat on our draft plan, and did not receive any negative feedback on these aspects of our plan.

We argue that the cost benchmarking should be undertaken on the individual elements of the schemes themselves. For example, if option involves enhancing a treatment works and then constructing a new pipeline to make use of the extra treatment works capacity, then both elements of this option should be cost benchmarked separately. The complexity of the treatment works enhancement (type of process being installed) should be categorised on its own merit. Likewise, the transfer should then separately be categorised depending upon the assets required and geographical constraints upon the transfer (elevation, route, distance, pumping stations, break tanks/service reservoirs). Without separating the options down to their modular components, it is difficult to ascertain the true complexity of the option as a whole, and therefore not possible to attribute accurately a unit cost efficiency that reflects the benefit gained from the option.

3. Misleading total option benefit

The benefit of some of the options was not realised fully within the model, due to the fact that we have options containing a combination of modular activities. Table 2 below has descriptions of the options that are not categorised correctly by the unit cost benchmarking model, highlighted earlier in Table 1. The description of options also suggests new unit cost benefits that should be considered by Ofwat in their model. These new unit costs highlight greater cost efficiency of the option when all the details are considered appropriately.

Table 2 – Option description of those incorrectly categorised incorrectly categorized in Ofwats unit cost benchmarking model

Option	Description
North Grid to South Grid reinforcements – 5.5MI/d	<p>Whilst this option is only flagged to provide 1.5MI/d AA deployable output benefit, it is built to provide 5.5MI/d CP benefit to have extra capacity to transfer water from north to south within our network, improving resilience to customers supplies and increasing the capacity to transfer the benefit of other options around our inter-connected network.</p> <p>Ofwat have therefore not realised the full benefit (MI/d) of this option and this should be adjusted accordingly as the design capacity which is driving the cost of the scheme is in relation to providing the critical period or peak capacity. The current unit cost benefit of 37.976 (based on total cost £56.964m / 1.5 benefit) should be recalculated with a 5.5 MI/d benefit, which would result in a unit cost benefit of 10.537.</p>
Increased Reservoir Capacity and East Transfer	<p>This option involves constructing new water treatment process to expand existing capacity – DAF (dissolved air flotation) and UV (ultra-violet) treatment processes at a reservoir site to increase the peak capacity of the treatment works up to 22MI/d, and then a new 40km pipeline, with booster stations, to transfer the water eastwards within our network to the areas of need. It therefore forms an essential role, alongside other options, in solving needs within the Hampshire Avon catchment.</p> <p>Again, whilst the critical period deployable output benefit of this option is 4MI/d, the new pipeline, booster stations and service reservoirs will increase the transfer capacity from west to east by 10MI/d. So the benefit (MI/d), and therefore the unit cost benefit, should also be adjusted for this option. The cost efficiency assessment should be undertaken at the level of individual elements.</p> <p>Considering the greatest benefit to the network is from the increased transfer capability, and that this is where the greatest proportion of the cost comes from (the sub-option 18.26 which</p>

	is the option under which we increase the transfer capacity has a cost of £107.87m and the option 23.01 has a total cost of £17.39m), this component of the option should be reconsidered in the 'Transfer (not IC)' category.
Underutilised licence – North Warminster	<p>This option involves enhancement of a ground water site by drilling two new boreholes (previous maintenance works have not led to being able to utilize full capacity of the yield), and transferring 500m to the existing treatment works. This would provide an increased output from site of 2.5MI/d.</p> <p>This option should not have licence trading as its category, and the subsequent 'low' complexity value assigned by the unit cost model. Instead, it should have 'Groundwater and surface water abstractions' as its category, with corresponding medium complexity, which correlates more closely to its WRMP24 categorisation of 'Groundwater Enhancement'. This also matches Ofwat's description of small-scale new infrastructure option for the category complexity.</p> <p>We are, however, now moving our funding requests for this option to AMP9 and request it as transitional fundings if needed.</p>
Underutilised licence – Bath Source	<p>This option involves building a treatment works at a reservoir near Bath (which currently collects water from a springs set) and transfer this potable water to a water treatment works and pumping station for onward transmission into the supply network. The reservoir has 150MI usable capacity, so would provide CP benefit of 5MI/d for up to 30 days in a 1:500 drought scenario, when the springs yield at Washpool would drop to less than 3MI/d.</p> <p>This option should not have licence trading as its category, and the subsequent 'low' complexity value assigned by the unit cost model. Instead it should have 'Groundwater and surface water abstractions' as its category, with corresponding medium complexity, which correlates more closely to its WRMP24 categorisation of 'Groundwater Enhancement'. This also matches Ofwat's description of small-scale new infrastructure option for the category complexity.</p> <p>Under adaptive pathway 3, 4 and 5 we would need to deliver this option by 2035 and therefore start the design and development of this option in Y4 and 5 of AMP8, however, we moved the funding request for this option to AMP9 and will request it as transitional fundings if needed.</p>

4. Annual Average (AA) vs Critical Period (CP) options benefit

The unit base model approach does not take into account that most options will be built to deliver a critical period benefit and an annual average benefit. It should be possible to provide both AA and CP benefit and use the maximum between the two when assessing the cost efficiency for an option. This is important because it is the critical period benefit – and therefore the need to solve deficits during peak periods – that is the most significant supply demand balance driver in our Water Resources Management Plan, and the factor that is driving the design capacity of the options and therefore the option costs. It is problematic to compare the unit costs of these options therefore to schemes from other companies that only have annual average option benefits.

If taking the maximum between the CP and the AA benefit as full benefit for the option, the cost efficiency for the option would be evaluate differently and so would be the final allowance. More details on AA and CP benefit for each supply option is provided in Annex 2 to help support this assessment

We hope that Ofwat will reconsider the suitability of their unit cost benchmarking model, and that in their final assessments they take into account all aspects of an option, especially those which are comprised from a variety of modular components (e.g. a new treatment works and internal transfer). By improving the unit cost model in these areas, the model would then provide more robust and fair unit cost calculations (£ per MI).

2.2. Adaptive pathway options

2.2.1. Ofwat position

Ofwat undertook a deep dive assessment of the adaptive pathway options included in table CW8 and judged that the investment partially met the criteria for enhancement investment for funding under adaptive pathways, as set out in the expectations of the PR24 methodology. The main points raised to justify this reduction were that:

- Sufficient evidence has not been provided that this work is over and above base expenditure activities – the 2025-26 period of work is considered to overlap with base activities.
- No consideration has been given to deferring funding until after the trigger point when there would be more certainty – 2028-2030 period funding has therefore been removed for deferral to PR29.

These points are in addition to the efficiency reductions raised above – the 2025-26 scheme costs and 2028-2030 scheme costs, following the unit cost challenge, were removed from the modelling efficiency allowance.

2.2.2. Challenge and evidence supporting our rationale

Ofwat's long-term delivery strategy guidance² states that all 'pathways' that are alternative to the core pathway, including the WRMP preferred pathways (or as referred to in the guidance as the central or "most likely" pathway"), should be incorporated into the plan as alternative pathways. The logic therefore applied by Ofwat to differentiate between options on central/preferred plans and other alternative pathways when determining cost allowances in the draft determination, is therefore not consistent with the LTDS guidance – the preferred pathway is an alternative pathway.

The funding for year 2025-26 has been cut with no further justification other than that it is considered to overlap with base expenditure, with no further explanation. The same year of funding has not been removed from the preferred pathway options for companies, even though these are also on an adaptive pathway from the core pathway, the funding is requested to be spent in the same year, and have the same level of scheme development, in that they have been selected to proceed in the immediately preceding WRMP. It is therefore seems like a somewhat arbitrary decision to cut funding for a specific year simply because of the year in which the activity falls, without reference to the nature of the activity. All of the adaptive pathways, included in the preferred plan, are treated equally from a long-term delivery strategy point of view; they all have a likelihood of being followed, as assessed in our WRMP, and pending the information derived from our next WRMP process, towards the decision point in 2027-28 and the trigger point in 2030.

It is important to note that the adaptive plan as structured has already been through consultation, and also through an additional iteration since we received further comments from Defra (and other regulators) in December 2023. Funding is essential to be able to progress schemes beyond the level of design produced for a water resources management plan, and beyond the point at which they have been selected in the WRMP to keep the alternative pathways open ahead of the trigger point. There is significant uncertainty in future need, and taking these options forwards in parallel is therefore essential to be able to meet future need, and in particular develop schemes in time to meet the significant environmental need, including in chalk catchments, by 2035.

We have queried Ofwat on the DD response and received a specific response point regarding option lead times "appearing long for the types of schemes being proposed and compared to other companies." The lead times of our options is an integral part of our WRMP planning and decision-making process. These points were not raised at the appropriate point during the development of our WRMP. We have reviewed the spread of funding across the AMP

² Page 7 - [PR24-and-beyond-Final-guidance-on-long-term-delivery-strategies_Pr24.pdf \(ofwat.gov.uk\)](#)

period relative to the option lead time and the delivery date, and re-profiled the costs, which has moved some of the funding request out of the 2025-26 year.

Ofwat have also noted in a query response that there is significantly more funding for uncertainty schemes as part of adaptive planning than on schemes delivering during 2025-30. It is not stated in the PR24 methodology and the LTDS guidance that this ratio is a criteria for judging cost efficiency for customers. As stated above, the methodology for developing our adaptive plan, and the uncertainties we face as a company on future need, have already been through the WRMP process. Not receiving this funding puts in jeopardy our ability to deliver the WRMP plans.

Ofwat state that Wessex Water's trigger point is in 2027/28. This is not the case – as explained in our WRMP and LTDS, the decision point on alternative pathways is in 2027/28 aligned with our next draft and revised draft WRMP towards the business plan in 2028. The trigger point, however, is not until 2030, and therefore the investment requested in 2028/29 and 2029/30 is not after the trigger point, and should not therefore be removed from the allowance based on this justification.

Nevertheless, we do recognise the uncertainty towards the end of the planning period will be reduced, and that from 2027/28 following the publication of the draft WRMP, there will be more certainty on which schemes need to be delivered, noting that there will still be residual uncertainties on approval of the chosen schemes across regulators.

We have therefore removed expenditure from table CW8 for schemes in the 2028/29 and 2029/30 period. We are treating all of our options from both the 'preferred plan' and 'adaptive pathways' consistently, as per the LTDS guidance, as they are all alternative pathways to the core programme, and we will look to utilise transitional funding following the AMP8 2027/28 decision point, towards the trigger point in 2030.

We recognise the response to our query that these mechanisms need to be scoped, consulted and agreed as part of the PR29 methodology, and look forward to working with Ofwat on an approach that can appropriately de-risk planning uncertainties within the AMP cycle, and ensure appropriate and timely funding for enhancement schemes to be able to deliver solutions at the required timescales for the environment and customers. This process would need to reflect the ongoing uncertainty in the final selection of schemes from the point of the WRMP draft plan submission (expected end of 2027/early 2028), through to revised draft plan and business plan.

The justification in both the DD and to a query we asked following business plan submission, references criteria set out in "PR24 Final Methodology (app 9, pg 112-113)" that options must meet in order to have funding for approved for uncertain and long-term projects preparatory work:

1. The scheme should be connected to an alternative adaptive pathway set out in a company long-term delivery strategy to meet a defined externally driven uncertainty
2. The scheme requires a material enhancement allowance and has a long lead-in time to develop and deliver which covers more than one price control period
3. The preparatory investment in the scheme in this price control period is better value for money than delaying the investment until there is certainty of need in a subsequent price control period
4. The scheme is the best option to meet the need and the proposed funding allowance is efficient and appropriate for the preparatory work; and
5. There is appropriate customer protection in place to ensure that the preparatory work is progressed.

We believe that the 'adaptive pathway' options we put forward meet this criteria. We have set out our reasoning below in Table 3, which builds upon our PR24 Outbound query response (Ref: OFW-OBQ-WSX-119) provided to Ofwat previously.

Both Ofwat and the EA approved of the 'adaptive pathway' options proposed during the WRMP24 process as we look at a range of options to meet an uncertain range of different water resources planning problems in the future.

Table 3 – WSX adaptive path options alignment to Ofwat funding criteria

Ofwat Criteria	
1 – Connected to alternative adaptive pathway set out in a company long term delivery strategy to meet a defined externally driven uncertainty	
Wessex adaptive pathway options	<p>All of the Wessex adaptive plan options are linked to adaptive pathways scenarios as set out in WRMP24 (adaptive pathway scenarios that were determined by the Environment Agency and Ofwat). The WRMP24 is a long-term delivery strategy, covering a period from 2025-2080, and is set out in our Long Term Delivery Strategy.</p> <p>The adaptive pathway scenarios are externally driven, covering uncertainties in climate change and customer demand as well uncertainties in abstraction licence reductions in 2035/36 resulting from the EA’s Environmental Destination. These reductions are yet to be confirmed with the EA, and so Wessex do not know which adaptive plan options will be best suited to mitigating the supply-demand deficits.</p>
Ofwat Criteria	
2 - Scheme requires a material enhancement allowance and has a multi period lead-in time	
Wessex adaptive pathway options	<p>All of the adaptive plan options require the construction of new assets, and therefore should be categorized as enhancement expenditure, not base expenditure. The complexity of the water resources planning problem, and these options, means the lead-in time covers two price control periods.</p> <p>Below are descriptions of the options, highlighting that they should be considered as ‘enhancement expenditure’ as they align with Ofwat’s description of ‘enhancement’:</p> <ul style="list-style-type: none"> • Enhancement expenditure is generally where there is a permanent increase or step change in the current level of service to a new ‘base’ level and/or the provision to new customers of the current service level. • Enhancement funding can be for environmental improvements required to meet statutory obligations, improving service quality and resilience, and providing new solutions for water provision in drought conditions.
Amesbury boreholes	New boreholes and treatment works to replace sources within the Hampshire Avon catchment that may need to be taken offline due to Environmental Destination and protection of chalk streams (new statutory obligations).
Bristol import & transfer II	Upgrade of existing transfer from Bristol Water, to facilitate new transfers within Wessex system to uncertain locations (hence four options) pending requirements from Environmental Destination and M.o.D licence reductions, and therefore which alternative pathways to follow. Different options are different routes to utilize the yield benefit from Bristol import I. Each option maximises the use of existing infrastructure through capacity upgrades and, where this is not possible, involves new pipework to increase the capacity of transfers within the network (with new associated storage reservoirs and booster stations) or new pipework on a new route to transfer within our network to the area of need as decided by the outcomes of Environmental Destination (new statutory legislation).
Bristol import & transfer III	
Bristol import & transfer IV	
Bristol import & transfer V	
Hampshire Avon boreholes	New boreholes and treatment works to replace sources within the Hampshire Avon catchment that may need to be taken offline due to Environmental Destination and protection of chalk streams (new statutory obligations).
North Grid to South Grid reinforcements - 5.5MI/d	Increasing capacity of current network to improve resilience. New licence reductions circa 2035 may require extra capacity of transfers within the network.
Yeovil reservoir peak capacity	New Ultra-Violet treatment required to expand the capacity of the treatment works and more fully utilize the licence capacity at our reservoir near Yeovil which will create extra provision of water in drought conditions.
Ofwat Criteria	
3 – Preparatory investment in this price control period is better value for money than delaying until there is certainty of need in a subsequent price control period	
Wessex adaptive pathway options	The adaptive plan options have long lead-in times, due to the complexity of the water resources problem they could be required to address. In order to meet the new statutory

	<p>requirements of licence reductions in 2035/36, as driven by statutory drivers, preparatory investment has to be completed within this price control period (2025-30).</p> <p>Delaying until a subsequent price control period would mean delaying the environmental benefits from abstraction licence reductions, as well as reducing the levels of service provided to our customers.</p>
<p>Ofwat Criteria 4 – Scheme is the best option to meet the need and the proposed funding allowance is efficient and appropriate for the preparatory work</p>	
<p>Wessex adaptive pathway options</p>	<p>Our adaptive plan options have all been through the WRMP24 Options Appraisal screening process, either directly as its own option, or it is comprised of a combination of options that were appraised at during WRMP24. The approach taken to determine best value has not been deemed inadequate following cross-regulator feedback.</p> <p>The options appraisals followed the EA guidance, and all feasible options were subject to SEA, carbon and cost assessments. The options were progressed following workshops with colleagues from our internal Networks, Production, Engineering and Environmental Science departments, as well as external stakeholders and regulators.</p> <p>The general principle we have followed is to source the replacement water as locally as possible to these areas that will be in deficit following licence reductions. Some options propose utilizing areas of surplus water, from within our supply area or from neighbouring companies, and transferring to the areas of need through new our current network, new network connections and service reservoirs. Other options involve drilling new boreholes and constructing new treatment works downstream of designated areas (to avoid the abstractions impacting the habitats) and transferring back into the area of need.</p> <p>The combination of options selected in each adaptive pathway has been identified by running our decision-making model with an aggregated decision-making tool to solve our supply demand balance under our central planning scenario, as affected by different planning constraints, government expectations on demand strategy, and environmental screening of poorly performing options.</p>
<p>Ofwat Criteria 5 – There is appropriate customer protection in place to ensure preparatory work is progressed</p>	
<p>Wessex adaptive pathway options</p>	<p>Customers will be protected against non-delivery or delayed delivery through PCD. We will provide reports to demonstrate option feasibility and design, and outcome of WRMP decision and use them as output measures for schemes delivered to the design requirements set out in WRMP.</p>

3. Required adjustment to cost allowance

In response to Ofwat's DD allowances, Table 4 sets out the changes that we are making to our option funding requests for each option. The adjustments recognise Ofwat's position and their response to our queries, where they highlighted the difference between funding requests for 'preferred plan' options against 'adaptive pathway' options, and also considers the lead-in time of each option when scheduling the funding.

In summary, these changes are due to:

- Moving costs for year 4 and 5 of AMP8 into AMP9. These costs will be requested as transitional funding, following 2027/28 trigger point.
- Reprofiled AMP8 costs for delivery earlier in the AMP (some options are modular, so looking to complete parts of these options earlier as requested by Defra following our WRMP feedback from them in December 2023, and agreed in our revised WRMP).
- Reallocating cost for year 1 of AMP8 to year 2 & 3 for adaptive pathway options where the option lead time allow for a delayed start that the first year of AMP8.
- Increased costs following recalculation of capex required.

Table 4 – Option funding changes requested

Data table line	Draft Determination allowance	Our revised CW8 requested allowance	Further details
CW8.4	£0.533	£0.321	Weymouth Source Improvements No changes to the allowance requested for AMP8. To be able to deliver the option by 2034-35, construction must start in year 5 of AMP8, these costs are currently allocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.5	£2.005	£0.402	Yeovil Reservoir peak capacity Option costs for year 1 of AMP8 reprofiled into year 2 & 3 of AMP8, based on lead time. Land costs moved into AMP9 for consistency with the rest of the supply options.
CW8.6	£0.577	£1.152	Amesbury Boreholes Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.7	£1.591	£0.952	North Grid to South Grid reinforcements – 5.5MI/d Option costs for year 1 of AMP8 reprofiled into year 2 & 3 of AMP8, based on lead time. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.8	£3.551	£1.694	Mere Stream Support Our requested costs have increased slightly compared to the original business plan submission due to incorrect allocation of capex funding.
CW8.9	£0.332	£1.017	Bristol Import I Option costs reprofiled into years 1, 2 & 3 of AMP8 to allow to deliver part of the option earlier than the lead time for the full option, following revisions to the WRMP following Defra letter in December 2023. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.10	£0.357	£1.395	Bristol Import II

			Option costs reprofiled into years 1, 2 & 3 of AMP8 to allow to deliver part of the option earlier than the lead time for the full option, following revisions to the WRMP following Defra letter in December 2023. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.11	£0.944	£0.704	Bristol Import IV Option costs for year 1 of AMP8 reprofiled into year 2 & 3 of AMP8, based on lead time. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.12	£1.025	£1.914	Bristol Import V Option costs for year 1 of AMP8 reprofiled into year 2 & 3 of AMP8, based on lead time. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.13	£1.447	£2.184	Increased Reservoir Capacity and Transfer Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.14	£0.977	£1.244	Bristol Import III Option costs reprofiled into years 2 & 3 of AMP8, based on lead time. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.15	£2.015	£3.101	Hampshire Avon Boreholes Option costs reprofiled into years 2 & 3 of AMP8. Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.16	£0.037	£0.00	Underutilised licence – North Warminster Costs originally allocated to year 4 & 5 of AMP8 have been reallocated to AMP9 and will be requested as transitional funding after 2027/28 decision point
CW8.17	£0.00	£0.00	Underutilised licence – Bath source Originally there was no cost associated with this option in AMP8 and this has remained unchanged. Potential costs for this option needed in year 4 & 5 of AMP8 will be requested as transitional funding after 2027/28 decision point

Considering Ofwat's DD allowances and query responses, we have set out our changes to CW8 supply scheme funding requests in Table 5. The total request has decreased from £22.856m to £16.080m.

We have recognised Ofwat's response to our query, where they highlighted the difference between funding requests for 'preferred plan' and 'adaptive pathway' options, as well as their suggestion of using transitional funding for options triggered after 2027/28 decision point, by re-profiling and adjusting our funding requests for 'adaptive pathway' options.

By utilising the transitional funding mechanism for 'adaptive pathway' options, we have reduced requested funding by £5.749m (~35% of original adaptive pathway funding request), which reduces the risk to customers of money being spent on options not taken forward in AMP9. There is still the likelihood that these options could be taken forward in the future, depending how different climate change and population scenarios materialise. This uncertainty will be reduced as we progress the development of the next WRMP.

Table 5 – WSX CW8 option funding requests original pre and post DD

Data table line	Option	WSX CW8 original request	WSX CW8 post DD request
CW8.4	Weymouth Source improvements	£0.320	£0.321
CW8.5	Yeovil Reservoir peak capacity	£0.826	£0.402
CW8.6	Amesbury boreholes	£1.930	£1.152
CW8.7	North Grid to South Grid reinforcements - 5.5MI/d	£1.591	£0.952
CW8.8	Mere Stream Support	£1.623	£1.694
CW8.9	Bristol Import and onwards transfer I	£0.436	£1.017
CW8.10	Bristol Import and onwards transfer II	£0.632	£1.395
CW8.11	Bristol Import and onwards transfer IV	£1.175	£0.704
CW8.12	Bristol Import and onwards transfer V	£3.198	£1.914
CW8.13	Increased Reservoir Capacity and East Transfer	£3.812	£2.184
CW8.14	Bristol Import and onwards transfer III	£2.080	£1.244
CW8.15	Hampshire Avon Boreholes and Transfer	£5.181	£3.101
CW8.16	Underutilised licence – North Warminster	£0.052	£0.000
CW8.17	Underutilised licence – Bath Source	£0.000	£0.000
Total preferred plan		£6.243	£5.216
Total adaptive pathway		£16.613	£10.864
Total		£22.856	£16.080

4. Why the change is in customers' interests

Wessex believe that the evidence provided for unit cost benchmarking changes, and the reprofiling of option funding requests in response to the draft determination comments on the adaptive pathways, is within the interests of customers. In order to maintain a supply-demand balance in the short to medium term up to 2035, and appropriately maintain the required level of service going forwards for customers, given the range of uncertainties we face as a company, we require our 'core pathway plan' options to be funded fully, including the investment required to keep future options open, as per the WRMP adaptive pathways that customers have been consulted on. Without this, there is a risk of our levels of service offered to customers being reduced, and them becoming more vulnerable to restrictions in severe drought conditions.

Constraining investment to the levels proposed by Ofwat would put customers supplies at risk and prolongs the unsustainable abstraction across parts of the Wessex supply network.

In addition to this, full funding of the pre-construction activities for the ‘adaptive pathway’ options will enable Wessex to mitigate for abstraction licence reductions in 2035, which is of interest for both the customers and their local environment.

We acknowledge that removing funding until more certainty is known on which pathways we will follow is in the best interests of customers as it reduced the potential for abortive costs, and we look forward to working with Ofwat to develop the approach for handling transition funding and uncertainty within the AMP cycle ahead of PR29. It is important that this process adequately reflects the uncertainty during the decision-making process of the next round of planning from draft WRMP in 2027/28, and provides sufficient assurance on funding to be able to deliver against supply-demand balance risks and provide certainty on delivery of levels of service for customers.

Annex 1 – Option component details

This annex highlights key components of our CW8 supply options, which as explained above are relevant and important details that justify and explain the detail required relevant to scheme design and capacity for a more accurate and therefore appropriate unit cost model.

Option	Weymouth Source Improvements		
WRMP24 option type	Water treatment works capacity increase		
DYAA benefit (MI/d)	2.5	DYCP benefit (MI/d)	1.63
Option components			
<i>Enhanced treatment works</i>	Enhancement of treatment works by construction of GAC process (sized for 10MI/d). Then installation of 8x automatic valves and PRVs in network		
<i>Pipework length (diameter)</i>	n/a		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	n/a		

Option	Yeovil Reservoir peak capacity		
WRMP24 option type	Water treatment works capacity increase		
DYAA benefit (MI/d)	0	DYCP benefit (MI/d)	4
Option components			
<i>Enhanced treatment works</i>	Installing extra DAF tanks to increase capacity of the treatment works from 18MI/d to 22MI/d		
<i>Pipework length (diameter)</i>	n/a		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	n/a		

Option	Amesbury boreholes		
WRMP24 option type	New groundwater		
DYAA benefit (MI/d)	4	DYCP benefit (MI/d)	4
Option components			
<i>Enhanced treatment works</i>	New borehole and treatment works sized to 4 MI/d. Treatment to include: auto washouts, nitrate reduction, GAC, UV, filtration, chlorination and ground tank		
<i>Pipework length (diameter)</i>	5.5km (300mm)		
<i>Service reservoirs</i>	1x 1.5 MI		
<i>Pumping stations</i>	1x borehole pump and WTW outlet pump		

Option	North Grid to South Grid reinforcements - 5.5 MI/d		
WRMP24 option type	Internal potable transfer		
DYAA benefit (MI/d)	1.5	DYCP benefit (MI/d)	5.5
Option components			
<i>Enhanced treatment works</i>	n/a		
<i>Pipework length (diameter)</i>	42.5km (300mm)		
<i>Service reservoirs</i>	3x 3MI		
<i>Pumping stations</i>	2x stations (2x pumps in each station)		

Option	Mere stream support		
WRMP24 option type	Groundwater enhancement		
DYAA benefit (MI/d)	5	DYCP benefit (MI/d)	5
Option components			
<i>Enhanced treatment works</i>	1x new borehole with VSD, MCC and instrumentation. Pipeline to connect new borehole to streat support main. Upgrading of distribution network to improve site resilience.		
<i>Pipework length (diameter)</i>	100m (150mm)		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	1x borehole pump		

Option	Bristol Import and onwards transfer I		
WRMP24 option type	External potable bulk supply/transfer		
DYAA benefit (MI/d)	4	DYCP benefit (MI/d)	7
Option components			
<i>Enhanced treatment works</i>	1x surge vessel, compressor and automated valves		
<i>Pipework length (diameter)</i>	24km (400mm)		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	2x pumping stations (2x pumps in each station as duty/standby)		

Option	Bristol Import and onwards transfer II		
WRMP24 option type	External potable bulk supply/transfer		
DYAA benefit (MI/d)	4	DYCP benefit (MI/d)	7
Option components			
<i>Enhanced treatment works</i>	1x surge vessel, compressor and automated valves		
<i>Pipework length (diameter)</i>	31.9km (400mm)		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	4x pumping stations (2x pumps in each station as duty/standby)		

Option	Bristol Import and onwards transfer IV		
WRMP24 option type	External potable bulk supply/transfer		
DYAA benefit (MI/d)	10	DYCP benefit (MI/d)	15
Option components			
<i>Enhanced treatment works</i>	n/a		
<i>Pipework length (diameter)</i>	17.1km (500mm), 21km (450mm), 12.5km (350mm), 8.8km (300mm)		
<i>Service reservoirs</i>	3x 5MI		
<i>Pumping stations</i>	1x PS at 15MI/d, 2x PS at 8MI/d, 1x PS at 5MI/d (all pumping stations have 2x pumps each)		

Option	Bristol Import and onwards transfer V		
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WRMP24 option type	External potable bulk supply/transfer		
DYAA benefit (MI/d)	10	DYCP benefit (MI/d)	15
Option components			
Enhanced treatment works	n/a		
Pipework length (diameter)	17.1km (500mm), 21km (450mm), 12.5km (350mm), 8.8km (300mm), 14km (400mm), 8km (300mm), 19km (300mm), 11km (300mm)		
Service reservoirs	5x 5MI, 1x 10MI, 1x 3MI		
Pumping stations	2x PS at 15MI/d, 2x PS at 8MI/d, 1x PS at 5MI/d, 1x PS at 4MI/d, 1x PS at 6MI/d (all stations have 2x pumps). 1x PS upgraded from 4 to 6MI/d		

Option	Increased Reservoir Capacity and East Transfer		
WRMP24 option type	Water treatment works capacity increase		
DYAA benefit (MI/d)	0	DYCP benefit (MI/d)	4
Option components			
Enhanced treatment works	Installing extra DAF tanks to increase capacity of the treatment works from 18MI/d to 22MI/d, then construction of new mains to transfer the additional capacity eastwards within the supply network		
Pipework length (diameter)	43km (500-700mm)		
Service reservoirs	n/a		
Pumping stations	3x stations (2x pumps in each station)		

Option	Bristol Import and onwards transfer III		
WRMP24 option type	External potable bulk supply/transfer		
DYAA benefit (MI/d)	10	DYCP benefit (MI/d)	15
Option components			
Enhanced treatment works	n/a		
Pipework length (diameter)	17.1km (500mm), 21km (450mm), 12.5km (350mm), 8.8km (300mm), 19.1km (350mm)		
Service reservoirs	3x 5MI, 1x 6MI		
Pumping stations	1x PS at 15MI/d, 2x PS at 8MI/d, 1x PS at 5MI/d, 1x PS at 12MI/d (all pumping stations have 2x pumps each)		

Option	Hampshire Avon Boreholes and Transfer		
WRMP24 option type	New groundwater		
DYAA benefit (MI/d)	14.3	DYCP benefit (MI/d)	14.4
Option components			
Enhanced treatment works	3x boreholes (each with 4.8 MI/d yield). New treatment works, sized to 14.5 MI/d with: autowashouts, nitrate reduction, GAC, UV, filtration and chlorination		
Pipework length (diameter)	5.3km (500mm)		
Service reservoirs	1x 5MI		
Pumping stations	3x borehole pumps, and WTW outlet PS		

Option	Underutilised licence – North Warminster		
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WRMP24 option type	Groundwater enhancement		
DYAA benefit (MI/d)	2.5	DYCP benefit (MI/d)	2.5
Option components			
<i>Enhanced treatment works</i>	2x new boreholes (60m deep) and associated pumps		
<i>Pipework length (diameter)</i>	0.5km (<300mm)		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	2x borehole pumps		

Option	Underutilised licence – Bath Source		
WRMP24 option type	Groundwater enhancement		
DYAA benefit (MI/d)	0.41	DYCP benefit (MI/d)	5
Option components			
<i>Enhanced treatment works</i>	Actuated SVs, raw water pumps, mechanical strainer, PALL membrane, 50m ³ storage tank and GAC		
<i>Pipework length (diameter)</i>	n/a		
<i>Service reservoirs</i>	n/a		
<i>Pumping stations</i>	n/a		

Annex 2 – Options benefit

WRMP option ID	Short name	AA Benefit (MI/d)	CP Benefit (MI/d)
22.04	Weymouth Source improvements	2.5	1.63
23.01	Yeovil Reservoir peak capacity	0	4
34.1	Amesbury boreholes	4	4
39.01	Underutilised licence – Bath Source	0.41	5
39.02	Underutilised licence – North Warminster	2.5	2.5
55.05	North Grid to South Grid reinforcements - 5.5MI/d	1.5	5.5
59.01	Mere Stream Support	5	5
70.01	Bristol Import and onwards transfer I	4	7
70.02	Bristol Import and onwards transfer II	4	7
70.03	Bristol Import and onwards transfer III	10	15
70.04	Bristol Import and onwards transfer IV	10	15
70.05	Bristol Import and onwards transfer V	10	15
70.06	Increased Reservoir Capacity and East Transfer	0	4
70.07	Hampshire Avon Boreholes and Transfer	14.3	14.4