

By email

Secretary of State for Environment,
Food & Rural Affairs

20 February 2023

Dear Secretary of State,

Affinity Water – draft water resources management plan 2024 consultation response

Long term water resources planning is a key business planning activity and essential for the efficient delivery of resilient water services for customers and protecting and enhancing the water environment. Ofwat has a key role to play in enabling this by funding through the 2024 price review (PR24). Therefore, it is vitally important that we consider whether water companies are identifying the best value approaches and delivering these, to ensure the best outcomes in terms of targeted investment to address challenges. The water resources management planning process is essential to helping Ofwat and water companies get this right. As a statutory consultee, we welcome the opportunity to comment on Affinity Water's draft water resources management plan (draft WRMP), which it published in November 2022. This letter should be read alongside our letter setting out the wider context of our review and the general approach to the assessment of companies' draft WRMPs.

Affinity Water supplies water to a population of approximately 3.8 million across the south east of England. Its water resources are planned on the basis of 8 water resources zones (WRZ) grouped into three supply regions: Central, Southeast and East. Affinity Water has identified key challenges in its water resource forecasts that require action to reduce demand or provide additional supplies.

Overall, there are some areas of Affinity Water's plan that are in line with our expectations for this stage of a draft WRMP. In particular, it delivers on expectations by:

- setting out the drivers behind the water resource challenges faced across the planning horizon;
- consideration and development of third party options;
- undertaking a best value assessment that follows best practice and links across to strategies in regional plans.

However, there are several material areas we have identified from our assessment where the plan does not yet provide sufficient and convincing evidence that it delivers the best value,

Aileen Armstrong, Senior Director for Company Performance and Price Review

low regret plan in the interest of customers and the environment. The annex to this letter provides detail on the specific areas of the company plan that we consider need further work and evidence. In particular, in its final WRMP Affinity Water should:

- ensure continuity between WRMP19 and WRMP24 and explain the reasons for any step changes. There is currently limited discussion of what has changed, particularly around step changes in supply demand balance components since WRMP19;
- use appropriate testing of differing pathways to increased drought resilience to inform investment decisions. Affinity Water has tested different dates for meeting 1 in 500-year drought resilience but the outcome has not been used directly to inform decision making. Affinity Water should also explore further how drought permits or drought orders, short of emergency drought orders, could be used more effectively;
- provide evidence to give confidence in the deliverability of the plan. Affinity Water's planning tables show a deficit of 94Ml/d in 2025 rising to 153Ml/d in 2030, which it proposes to resolve with £490m of enhancement investment. This scale of investment presents significant delivery risks;
- provide sufficient and convincing evidence that the number and range of options is appropriate given the scale of the challenge presented. Options are relatively small in number and capacity compared to water needs and most are new transfers or option variants. This is important to justify that the options are selected as best value;
- demonstrate how it has optimised its demand reduction strategy and how this has influenced its decision-making process. We have concerns over specific areas including the 15-year metering programme, choice of leakage reduction and selection of mains replacements after year ten;
- more clearly explain its approach to best value decision making in the context of its adaptive plan including how it has applied best value metrics.

We thank Affinity Water for its hard work and effort in producing a detailed draft WRMP, and responding to queries throughout the consultation process. Affinity Water should now focus on delivering the expected outcomes of the current plan (WRMP19 funded via PR19), and considering all the responses to this draft consultation in its final plan. We look forward to continuing to work together as final WRMPs are prepared, to protect water resources now and in the future.

Yours sincerely



Aileen Armstrong
Senior Director, Company Performance and Price Reviews, Ofwat

Annex

In this annex we outline further details on the points raised in our main letter alongside more detailed comments on different areas of the draft WRMP. Our points reflect our assessment approach and focus on:

- **Demand management ambition and outcomes** – alignment with government targets and statutory requirements for water demand.
- **Assessment of water needs** – including key drivers for WRMP24, the supply demand balance forecast and the need for enhancement investment.
- **Options to meet water needs** – the approach taken to identifying and screening options for both supply and demand, review of demand management and supply side proposals including sensitivity testing for key areas, sufficiency of options and option utilisation under normal and peak scenarios, including scalability and modularity.
- **Decision making and prioritisation** – best value decision making for customers and the environment, how the company has approached strategic planning frameworks and alignment with Ofwat’s long-term delivery strategies and common reference scenarios¹.
- **Long term best value programme** – cost efficiency, bill impact and affordability of the plan.
- **Customer and stakeholder engagement** – the type and quality of interaction with customers and stakeholders and the impact this has had on the draft plan formulation and proposals.
- **Board assurance** – company assurance and governance processes, including Board engagement and signoff.

Demand management ambition and outcomes

The Government’s strategic priorities for Ofwat states reducing demand for water can relieve pressures on water supply and increase our resilience to extreme drought. Water companies must act to reduce demand for water in a way that represents value for money in the long-term. We expect all companies to use their WRMPs to show how they will meet long term water demand targets including:

- halving leakage across the industry by 2050, in comparison to 2017–18 levels²;

¹ Ofwat, [PR24 and beyond: Final guidance on long-term delivery strategies](#), April 2022

² For example, [February 2022: The government’s strategic priorities for Ofwat – GOV.UK \(www.gov.uk\)](#)

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- reduce per capita consumption (PCC) to 110 litres per head per day (l/h/d) by 2050³.

A further target is now set in the Environmental Targets (Water) (England) Regulations 2023⁴ for the reduction of potable water supplied by water undertakers in England to people in England. This is that the volume supplied per day per head of population is at least 20% lower than the 2019-20 baseline by 31 March 2038. We expect companies to demonstrate how they will deliver against this target in their final WRMP.

Demand reduction strategy development

The company references the 20% reduction in distribution input per head of population by 2037-38 based on the 2019-20 baseline target in its draft WRMP. The company's final WRMP should demonstrate how it plans to deliver this through a combination of reductions in the key demand components, leakage, household consumption and non-household consumption.

Affinity Water has provided a good explanation of how water efficiency is considered as part of the demand reduction strategy, and non-household customers have been included in demand reduction plans. However, there is a lack of option breakdown in terms of the presented costs and benefits across leakage, metering, and water efficiency. Preferred options on demand management appear to be appraised against few alternatives.

We welcome the fact that the company has tested different target profiles such as achieving demand management via fast, medium and slow delivery. However, the final WRMP should provide sufficient and convincing evidence on why the company selected its preferred strategy by clearly showing the costs and water savings per price control period for each scenario. This explanation and comparison should be clearly set out in the final WRMP.

It is not clear how Affinity Water has optimised its water demand management strategy. This includes whether a 15-year metering programme, choice of leakage reduction, and need for mains replacements after year ten to meet the leakage profile have all interacted in a coherent strategy. The strategy for reducing water demand from non-households contains insufficient evidence including a lack of options and their costs and benefits. The company should provide sufficient and convincing evidence in its final WRMP that the strategy is optimum once all the components are integrated into a programme.

Whilst the company provides a breakdown of various costs relating to leakage reduction, it should also provide this information for smart metering, water efficiency and non-household

³ For example, [February 2022: The government's strategic priorities for Ofwat - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/2022/02/2022-02-20-the-governments-strategic-priorities-for-ofwat)

⁴ Defra, [Environment Act](https://www.gov.uk/government/consultations/2021/12/2021-12-20-environmental-targets) 2021: environmental targets December 2021

programmes in its final WRMP to give customers and stakeholders a full understanding of the consequences of the strategy. We also note that some cost data, such as leakage costs, are presented inconsistently. The final WRMP should clarify why these numbers differ and confirm the correct numbers.

The company's preferred programme includes water efficiency options with comparably high unit costs. For example, there are some preferred demand management options with an average incremental cost (AIC) in excess of 150p/m³ and significant metering investment is proposed for limited benefit. Several other supply and demand options with significantly lower AIC have not been selected (e.g. comparing AICs of Fortis Green's increased import and Demand Basket Low Wey) and are not in its preferred plan. In its final WRMP Affinity Water should provide sufficient and convincing evidence why these and other lower cost options are not preferred options, and how this aligns with its decision-making process.

Delivery of PR19 performance commitments and WRMP19 targets

We are concerned that based on the draft WRMP data tables the company does not forecast to deliver its WRMP19 levels for PCC by 2024–25 noting that the company has stated in a query response that this reflects a difference of 12Ml/d. We expect the company to deliver its WRMP19 levels. We do not consider it is valid for companies to expect additional customer funding to address deficits resulting from under delivery in the current or previous periods. We expect the company to review its proposals in these areas for its final WRMP.

The data provided by Affinity Water in its draft WRMP data tables indicates that delivery of its PR19 performance commitment level (PCL) for PCC will be marginally missed. However, the company has confirmed it intends to deliver its PR19 PCL and therefore it should ensure its final WRMP data tables align with this.

Business demand

Affinity Water's draft WRMP presents a 2029–30 business demand (non-household consumption level) that is 4.8% lower than the 2019–20 baseline level⁵. However, the company's plan also indicates an increasing business demand across the 2025–30 period. We expect the company to clearly justify an ambitious strategy for non-household demand reduction in its final WRMP. The company should clearly explain in its final WRMP how it has

⁵ Combining measured and unmeasured non-household consumption figures, business demand is expressed as a three year average. The average of the reporting year and the two previous years.

assessed the option of increased smart metering levels for business customers and how its metering plans for business customers aligns with its overall metering strategy.

Per capita consumption (PCC)

Affinity Water intends to reduce PCC to 112 l/h/d by 2050 but requires significant government intervention to achieve this (only achieving 124 l/h/d without it). The company states this is because of a higher starting PCC compared to most companies, however, it does not explain why 110 l/h/d is not achievable nor present a scenario that shows the costs and benefits of achieving this target⁶. The company should present this scenario in its final WRMP and provide sufficient and convincing evidence to justify its selected target.

The data provided by the company to date shows that it is proposing a three-year average PCC reduction over the 2025–30 period that will deliver a level of PCC 15.9% below the 2019–20 baseline by 2029–30. This represents a further reduction of only 3.4% beyond the company's 2024–25 performance commitment level of 12.5%. As the company further develops its forecast PCC performance trend from draft WRMP to final it should ensure it is demonstrating sufficient ambition to challenge itself to reduce PCC levels.

For its final WRMP, Affinity Water should also clearly identify the assumed implementation dates and benefits for government initiatives such as water labelling and the minimum standards initiative in its glidepath for PCC reduction.

Leakage

We welcome that Affinity Water is planning to reduce leakage by 50% by 2050 from a 2017–18 baseline. However, the company does not test whether this target is optimal, and whether a larger reduction may be appropriate given its supply-demand balance needs. The company is proposing a three-year average leakage reduction over the 2025–30 period that will deliver a level of leakage 31.3% below the 2019–20 baseline by 2029–30. This represents a further reduction of 11.3% beyond the company's 2024–25 performance commitment level of 20.0%.

Affinity Water has not discussed its policy with regards to customer supply pipe leakage. We are encouraging companies to evaluate the benefits of a common industry approach to addressing leakage on customers own pipes. We expect companies to provide a view on the benefits of a common industry approach in their statements of response and final WRMPs. We will support companies in the development of a common approach but expect the industry to

⁶ 110 l/h/d is a dry year target

lead on the development. The Water UK leakage route map to 2050 committed to an informed debate on customer supply pipe strategy by December 2022⁷.

Metering

Meter penetration is forecast to increase from 69% in 2025 to 79% by 2035 and to 81% by 2045. During this period the company is planning to rollout advanced metering infrastructure (AMI) meters. AMI meter penetration is planned to increase by 66% by 2035 and a further 15% by 2045.

The company has considered a range of leakage and water efficiency options to develop its draft WRMP, however, the number of metering options appears limited. When optioneering and deciding on the profile for its smart metering strategy the company considered three scenarios for the roll out (over five, 15 and 25 years). The company selects a three period roll out of advanced metering infrastructure (AMI) meters, justifying the choice of AMI meters over automatic meter read (AMR) meters based upon the cost-benefit analysis when comparing the two technologies. Testing full smart meter penetration by 2035 would align with Ofwat's expectations for long term delivery strategies. In its final WRMP the company should either provide sufficient and convincing evidence that it has appraised a rollout over ten years (which aligns with the faster technology common reference scenario in the long term delivery strategy) or, if not, justify why the preferred strategy of delivery over three periods (15 years) is better value. The third period of meter rollout saves 18MI/d of water which is a significant amount of the company deficit and may offset the need for other proposed demand or supply-side options.

Development of demand reduction performance trends for final WRMP and business plans

Affinity Water has stated that it will need to revise its demand reduction trends to consider outturn performance data from 2019-20 onwards. We expect the company to base the forecasts in its final WRMP on its most up to date demand data.

We expect the company to provide sufficient and convincing evidence in its final WRMP to justify why its selected targets for demand reduction (leakage, PCC and business demand) represent the best value approach to meeting a supply-demand balance or delivering long-term strategic outcomes. This should include evidence of target testing and a clear explanation of the company's decision-making process.

⁷ The Water UK document '[A leakage routemap to 2050](#)' committed to an informed debate on customer supply pipe strategy by December 2022.

As stated in our PR24 final methodology, we expect consistency between final WRMPs, company long-term delivery strategies and business plans at PR24. Any areas of variance between final (and published) planning frameworks and business plan submissions need to be fully explained, supported by compelling evidence. This should also include the reasons for changes and include confirmation that customers and the environment are not or will not be worse off.⁸

Assessment of water needs

A robust assessment of current and future water needs is critical as it drives the gap between supply and demand and therefore drives the scale of investment required for the 2025-30 period and beyond.

We provided detailed feedback on Affinity Water's assessment of water needs in our pre-consultation feedback in 2022. Some of our previous feedback has not been fully addressed in the draft WRMP, and has been raised again below. Affinity Water should provide sufficient and convincing evidence that the feedback has been addressed in the final WRMP.

The company's supply demand balance starting point for the draft WRMP24 is significantly lower than its forecast for the same point in the final WRMP19. The reduction in available water for 2025-26 is equivalent to 14% of company water demand (distribution input). Although some of the changes are due to supply-demand balance reporting updates, there is still insufficient evidence to understand changes in some areas. In some areas, the evidence suggests that non-delivery or underperformance is the cause. We are concerned about the company not meeting expected WRMP19 leakage and PCC levels, non-delivery of PR19 funded schemes, and changes to assumptions around the water balance, population and dry year uplift. This means that there are significant concerns whether the overall outcome of the WRMP19 as funded at PR19 has been delivered in the round. The company should fully quantify and justify the reasoning for changes between WRMP19 and the starting point for WRMP24 at a supply-demand balance component level with sufficient and convincing evidence.⁹

There is limited evidence provided that the benefits of funded PR19 activities have been appropriately factored into the draft WRMP24 baseline supply-demand balance. The intended delivery and progress of PR19 schemes is inconsistently presented in the company 2021-22 Annual Performance Report (APR), draft WRMP and query responses. The company should

⁸ Ofwat, [Creating tomorrow, together: Our final methodology for PR24 Appendix 9 – Setting expenditure allowances](#), December 2022, p85.

⁹ Ofwat, [Creating tomorrow, together: Our final methodology for PR24 Appendix 9 – Setting expenditure allowances](#), December 2022, pp86-97.

provide granular details of the benefits of funded schemes and how and when these have benefitted the baseline supply-demand balance in its final WRMP. Where a step change in supply-demand balance between WRMP19 and WRMP24 is not sufficiently justified as being due to changes to scenarios or planning assumptions and may instead be as a result of non-delivery or underperformance, this will be taken into account at PR24 in the assessment of enhancement funding¹⁰.

It is important that WRMP19 supply- and demand-side options are on track ahead of WRMP24. We expect the company to make substantial efforts on delivering its schemes and demand reduction for the rest of the 2020-25 price control period, to ensure that WRMP19 forecast, and PR19 performance commitment targets are met annually, and to set firm foundations for delivering WRMP24.

Affinity Water presents high level outputs of testing the date for achieving 1-in-500 year drought resilience to emergency drought orders. It states that moving the date to 2050 from 2040 reduces the average cost across the adaptive branches by £900 million net present value (NPV). We welcome that this impact is presented. However, we expect further details in the final WRMP of the different costs of the programme in the short term and long term, in non-discounted costs for each pathway, for such a significant policy choice.

The company states in its level of service summary that emergency drought orders are deemed an unacceptable drought response but could be used for short periods of time in localised areas because of a civil emergency. This can be confusing for customers and stakeholders and seems to contradict the move from 1-in-200 year to 1-in-500-year emergency drought order resilience. This is important as the scale of impact and the date for achieving it is a key driver for scheduling schemes in the investment programme. This point was raised in the pre-consultation meeting and has yet to be appropriately addressed. Affinity Water should provide sufficient and convincing evidence to show that it has robustly tested the sensitivity for the date to meet 1-in-500-year drought resilience, this has been used to engage with customers, and this has informed the choice of the date in its final WRMP.

The company has a level of service for imposing temporary use bans (known as hosepipe bans) on a frequency of once every 10 years. Testing and optimising the frequency of imposing these restrictions is not explored within the plan, in particular in the context of the experiences of the 2022 drought. The company should provide sufficient and convincing evidence that the 1-in-10 year hosepipe ban frequency has been discussed with customers

¹⁰ Ofwat, [PR24 final methodology: Appendix 9 – Setting expenditure allowances](#), December 2022, pp86-87.

and stakeholders and meets their expectations. Affinity Water states that the timing for investment in strategic schemes is driven by timing of its environmental destination and Thames Water's move to 1-in-200 year drought resilience. The company should also provide sufficient and convincing evidence for the timing of environmental destination drivers of need, including the testing and optimisation of dates, and that it has assured itself that its customers are getting optimum outcomes due to investment scheduled to meet the policy choice of another company.

Affinity Water has used a 50-year planning horizon aligned to Water Resources South East (WRSE). Long term environmental destination is a key driver of investment for this plan. Affinity Water should show how the timing of uncertain environmental destination reductions are optimum (taking account its potential to drive early investment and time to better understand environmental issues) and provide assurance in its final WRMP that that abstraction reductions are not double counted when licence capping is combined with environmental destination scenarios.

The company has updated its population forecasts since WRMP19 which has resulted in a change in assumed population of over 145,000 for the year 2025-26. This is a significant change to the starting assumption. Although the company describes the methodology which results in the change, and that outturn for 2021-22 was 105,000 higher than forecast, it provides insufficient evidence that this updated number accurately reflects the population of the company and, given its significance, is appropriate. We expect the company to provide sufficient and convincing evidence in its final WRMP that the revised population forecast for WRMP24 is reliable, including validation against outturn, and why it is different to the WRMP19 forecasts from less than five years ago.

Affinity Water has largely calculated available supply in line with guidance, and statistical approaches have been used. However, Affinity Water should review its baseline deployable output (DO) to ensure that it is consistent with the Water resources planning guideline (WRPG) (section 5.3).

Options to meet water needs

Identifying an appropriate number and range of options to meet water needs is essential to ensure that customers and stakeholders have confidence that the preferred programmes are optimal. We are concerned that Affinity Water has not considered a sufficient range of supply and demand options given its baseline supply demand balance risk and the pressures faced. We queried how many unique options (removing sub-options) were included on the feasible list, how much water they could provide and what proportion of expected needs at 2050 these could meet. The response shows that when compared to expected need of 559MI/d (we note however that Affinity Water's planning tables show a 2050 company level need of ~490MI/d), the feasible options can meet around 130% of its need. The company is very

reliant on raw water transfers and leakage reduction which together make up 77% of the volume of water available to the company. Affinity Water's preferred plan options provide 109% of its need at 2050.

Whilst the options provide enough water to meet the needs, the capacity is only slightly above what is needed. Although this is presented as being higher than the number considered at WRMP19, most are new internal transfers or variants of schemes already included. At a water resource zone level there are instances of very low numbers of refined feasible options compared to those being selected as preferred, for example zone AFWBR8 which has five of seven feasible options selected. The company should provide sufficient and convincing evidence in its final WRMP that the number and range of options is appropriate given the presented scale of challenge, including at a zonal level.

The company has not provided sufficient and convincing evidence that it has explored sufficient numbers of large options given the conclusion that a large joint option is optimum for several companies in the south-east. The company has focussed on the strategic regional water resource solutions identified in PR19 and not identified other large options including transfers in from other regions, further new reservoirs or reservoir expansions, or large-scale effluent recycling options. For example, Longdon Marsh reservoir, identified during WRMP19 as being a potential alternative to other large options, which performed well (subject to further work) in the RAPID gap analysis¹¹, and features as a feasible option in the Severn Trent Water draft WRMP is not considered on the constrained list for Affinity Water or other WRSE companies. This means that screening, decision making, and optimisation is based on a limited company selected list of options which leads to concerns in accepting that the preferred programme represents best value over the long term.

Some of the screening criteria applied to the unconstrained list do not align with the need to identify suitable and technically feasible options to progress to more detailed appraisal. This includes the screening criteria looking at the certainty of deployable output, cost and carbon impact, or natural capital impact, which are not necessary traits of options to be suitable for consideration in a WRMP. This may be contributing further to the lack of feasible options to be optimised later in the process. Affinity Water should further describe the criteria and justify, with sufficient and convincing evidence, why they are appropriate at this stage of the decision-making process.

A total of 26 option types were explored prior to screening. The preferred plan is based on 11 option types. As abstraction licence reductions (short term and longer term for

¹¹ Jacobs, [Meeting regional and national water resources needs: gap analysis of the current strategic infrastructure scheme portfolio](#), August 2020.

environmental destination) are driving a significant proportion of the need for investment, alternative options that allow the environmental improvements to be made that may be more effective or better value should be explored. This includes considering moving abstractions rather than simply reducing them and needing to replace that water on a like for like basis.

The approach to solution water resource benefit assessment is in line with guidance. Affinity Water has presented demand and supply options that demonstrates a twin track approach, and it presents a long term glidepath for demand reduction. Uncertainties relating to costs and benefit delivery have been explored and mitigated. Flexible solutions have been assessed.

We note differences between the WRSE and WRW plans on the timing of the Severn Thames Transfer (STT). WRW and WRSE should represent this option consistently in the final plans. Should there be any inconsistencies these should be clearly explained.

The approach to identifying third party options has been explained and these feature in the option lists. The company has identified 29 third party options in the draft WRMP narrative, and six schemes get through to the constrained feasible list. It is positive to see sufficient numbers of third-party schemes are considered and seemingly fairly treated in the screening and optimisation process. As such we note that in the near term the company's preferred plan includes a transfer using the Grand Union Canal (GUC) and resource from the Canal & River Trust Slough borehole.

There are three external import options identified in the preferred plan with no Water Available For Use (WAFU) and one catchment management option with no WAFU. All options included in the preferred plan should provide some benefit to one or more components of the supply demand balance and Affinity Water' final WRMP should explain how these four options benefit the supply demand balance.

Affinity Water has not provided sufficient information regarding option utilisation in its draft WRMP. Extra information was provided to Ofwat on utilisation after querying. We expect to see more robust evidence on utilisation in the final WRMP, in line with feedback in our pre-consultation feedback letters to fully explain and justify the utilisation rates given and to provide evidence that modularity and scalability in optioneering has been fully considered and explored to manage low utilisation situations. We require clearer and detailed evidence in the final WRMP that operational interventions have been considered and will be implemented where appropriate if this is the best value solution.

From the information Affinity Water provided on option utilisation via the query process some schemes appear to have high utilisation. However, there is little evidence of optimisation of the programme, for instance optimising the Strategic Resource Options (SRO) programme. It is possible (though not tested) that further work on the SROs could improve utilisation and

perhaps impact timing for some schemes. There is little evidence of optimisation of leakage and water efficiency programmes in the consideration of the development of SROs. Clearer and detailed evidence should be presented in the final WRMP.

Decision making and prioritisation

Affinity Water has described how its WRMP is informed by the relevant regional plan however for the final WRMP further detail to describe the regional methods and approaches should be added, and the narrative should contain a complete and standalone explanation of decision making at the company level.

Water resource zones one to seven are informed by WRSE's decision-making process and WRZ eight by Water Resources East (WRE). The high-level decision-making approach and decision support tools used are aligned with the company's view of its problem characterisation and appear in line with the guidance. In the WRSE region where most of its supply-demand need and therefore investment risk is contained, an explanation of the optimisation process across nine adaptive pathways used to derive the preferred programme and output comparison has been provided.

The application of the decision-making process is notwithstanding the feedback raised in the 'Options to meet water needs' section above, concerning the extent of options identified and which options have passed through screening to be included within the decision-making process.

Affinity Water use an adaptive planning approach to manage uncertainty which aims to address known issues and future uncertainties by testing a range of scenarios. The company has not presented sensitivity analysis on the timing of the adaptive plan branches to explore the trade-offs and justify the timings, and this should be completed for the final WRMP. Affinity Water should further demonstrate in its final WRMP that decision making has not been influenced by artificial constraints and that constraints are appropriate. This includes presenting the implications of sensitivity testing, different glide paths on water efficiency and leakage.

Best value metrics have a line of sight to the draft WRMP objectives, however, it would be beneficial to clearly identify the sight to sub-metrics and to the outcomes. This would help structure and justify the preferred plan selected. Affinity Water has considered a range of economic, social and environmental benefits that the options can deliver. Affinity Water has not referred to Ofwat's public value principles. We would like Affinity Water to use Ofwat's public value principles, and reflect expectations referred to in the PR24 final methodology, within its best value planning process in its final plan and explain how these have been used to inform best value decision making.

In combination assessments have been included for environment but not for deployable output at the programme level as part of best value plan assessment, and these should be completed for the final plan.

The feedback WRSE and associated companies including Affinity Water receive on the draft plans, and potential changes to the estimated cost of SESRO over time, have the potential to further influence the need for, timing and sizing of this option. While SESRO is currently selected across scenarios in the WRSE draft plan, the choice of size is presented as a close decision with small differences in associated best value metrics. The smaller reservoir option (100 Mm³ capacity) is currently selected as it is assessed as performing better against some of the best value criteria, particularly those that provide additional benefits to the environment and society. The plan suggests that the larger reservoir option (150 Mm³) performs better against the resilience criteria and biodiversity net gain.

The selection of SESRO is based on current costs which we note have not changed significantly over recent years and may do so as the option development work progresses. WRSE should work with the relevant water companies, including Affinity Water, to further evidence the robustness and reliability of SESRO costs given they have not changed significantly in more than five years which is unusual for a project of this scale. WRSE and Affinity Water should provide clear and robust evidence around the selection or non-selection of SESRO in its final plans, including any impact of its delivery cost changing, and present a clearly evidenced and thought-through approach.

The company should clearly present the benefits of the least cost plan against its preferred best value plan and other plans. It should provide the total cost and overall value of each of the programmes. Where investment is proposed beyond least cost, the value of the additional benefit needs to be presented within the WRMP planning tables, with the robustness of this valuation data important for significant areas of investment. As well as clearly presenting this, the company should provide sufficient and convincing evidence that the costs to deliver the best value plan is outweighed by the additional value it provides.

Affinity Water proposes to invest £50 million in interconnecting its network in the 2025–30 period. The company should ensure the benefits it has identified for these schemes are well evidenced. Additionally, the company may have schemes where interconnectors are necessary to deliver new supplies to areas of demand. In such cases the schemes should be evaluated by combining the costs of developing the new supply with the interconnector costs as a single option, to produce an optimised best value plan. We also reiterate our pre-consultation feedback, which aligns with the WRMP guidelines, that sub zonal schemes (not impacting on zonal WAFU) can be discussed within the narrative of the WRMP to provide context, but they need to be presented and justified with sufficient and convincing evidence in PR24 business plans rather than the WRMP. When presenting such enhancement schemes companies should clearly identify how they have assessed the degree of overlap with

activities it is funded to deliver through base expenditure.¹² Companies should not expect additional customer funding to address risks resulting from under delivery in the current or previous price control periods.

Several of these options are part of or interact with what the company calls its 'Connect 2050' programme. This replaces the Supply 2040 programme the company promoted and requested funding for at PR19. There is only a brief mention of the change from Supply 2040 and Connect 2050, with no explanation for the discontinuity between plans or the key differences in schemes, costs and benefits. The differences between these programmes, and any consequences for PR19 funded schemes, should be clearly described and supported with sufficient and convincing evidence in the final WRMP. The need for the Connect 2050 programme, the benefits it delivers and interactions with other WRMP schemes (and those that fall under WINEP, growth or base maintenance) are not clearly identified. These should be presented with sufficient and convincing evidence in the final WRMP.

The company has used the target headroom calculation and adaptive planning to manage uncertainty in its draft WRMP. There is an explanation about the interaction between the two approaches so that risks and uncertainties are not double counted, although there is no obvious reduction in the headroom allowance after defined trigger points. The company's headroom allowance is high compared to most other companies at over 8% of the company distribution input during 2025-30. Therefore, this planning assumption contributes significantly to the company supply-demand balance and proposal for significant investment. The company needs to present sufficient and convincing evidence that the headroom allowance is appropriate in both the short and long term, is not driving unnecessary and high regret investment, and that it has properly accounted for interactions with adaptive planning.

Affinity Water adopts the WRSE approach for adaptive planning. The plan selects nine alternative pathways which diverge in 2030 and 2035 based on decision points around population and environmental destination/climate change, respectively. The method combines the Ofwat common reference scenarios with a wider range of climate and demand scenarios to explore a range of futures. The method combines multiple scenarios, for example, high climate and high environmental improvement, then optimises the option selection in 2025-30 to ensure a surplus supply under all future pathways. We expect Affinity Water to test our low abstraction reductions scenario, which is to 'assume only currently

¹² Ofwat, '[Creating tomorrow, together: Our final methodology for PR24 Appendix 9 – Setting expenditure allowances](#)', Annex A1.

known legal requirements for abstraction reductions up to 2050¹³. Following the approach agreed between Ofwat, the Environment Agency and the regional water resources planning groups, companies should include agreed WINEP changes and licence capping, and use the agreed BAU+ scenario to form a long-term view, but use local reviews to remove licence reductions with significant uncertainty, to form a plausible 'extreme low' scenario. .

Affinity Water does not present a core adaptive pathway in line with our definition. We have concerns that there is a risk of over-investment in 2025–30 in particular because the options are chosen based on scenarios that are more severe than the Ofwat common reference scenarios. Since the Ofwat common reference scenarios represent 'plausible extremes', combining them risks producing a very low probability scenario. This means Affinity Water may be planning to invest in some options that have a very low chance of being needed or could have low rates of utilisation. Furthermore, it is unclear which options would be selected in the different pathways, and when they would first be utilised.

We expect Affinity Water to present a core pathway in line with the WRPG definition that includes low-regret investment to meet future uncertainties and additional option value to allow further flexibility in the future. In its final WRMP, Affinity Water should demonstrate that scenario testing, including the common reference scenarios, has been used to identify low-regret investment that is required in all or most plausible futures. This should expose what investment should be undertaken regardless of future circumstances. In particular, it should address concerns that there is a risk of over-investment because the options are chosen based on meeting very low probability scenarios.

As part of this evidence, Affinity Water should clearly set out the impact of the Ofwat common reference scenarios compared to the 'most likely' scenarios on which the preferred plan is based. This should include quantifying the impact on demand of the low and high scenarios for climate change, demand, and abstraction reductions across the planning period. The company should also quantify the estimated impact on the expenditure requirement of:

- planning based on the high scenarios for climate change, demand, and abstraction reductions, and the slower scenario for technology; and
- planning based on the low scenarios for climate change, demand, and abstraction reductions, and the faster scenario for technology.

This will allow for improved understanding of the drivers of investment, the sensitivity of the plan to future scenarios and confidence in the investments being proposed. The company should use the results of this testing to identify and justify with sufficient and convincing

¹³ Ofwat, PR24 and beyond final guidance on long term delivery strategies, April 2022.

evidence low regret investments, rather than just ones that meet both high and low planning needs in a non-adaptive way.

The justification for decision points and trigger points are well explained in the draft WRMP. Affinity Water sets out a monitoring plan including measurable metrics for some areas, for example, population growth. For the final WRMP Affinity Water should develop a monitoring plan for all decision points and clearly explain the conditions that would cause one pathway to be adopted over another using clear observable metrics. We would also like to see sensitivity testing of the timing of these points. Currently they appear to be driven by the five year planning and investment cycle, rather than the lead-in time for specific enhancements.

Affinity Water should discuss the wider context of this draft WRMP in relation to other long-term plans. The approach to linking WRMP with PR24 business plan is referenced throughout the main report including how activities will be included in the business plan. However, the narrative doesn't explain how the scale of investment compares to WRMP19 or how funding will be split between base and enhancement, and this should be addressed in the final WRMP.

Long term best value programme

The company has proposed £489 million of enhancement expenditure relating to delivery of its draft WRMP24 in the 2025–30 period. This is an increase on the £291 million supply demand balance enhancement expenditure programme the company requested for the 2020–25 period at PR19¹⁴. At PR19 the Egham to Iver transfer received customer funding. For the final WRMP, Affinity Water needs to clearly describe and provide sufficient and convincing evidence regarding how the PR19 funding been accounted for, and what has changed since WRMP19 and why.

Significant benefits of approximately 580 Ml/d have been identified by the company relating to interconnection schemes in the 2025–30 period alone. The company should ensure the benefits it has identified are sufficiently evidenced in the final WRMP. Additionally, the company may have schemes where interconnectors are necessary to deliver new supplies to areas of demand. In such cases the schemes should be evaluated by combining the costs of developing the new supply with the interconnector costs as a single option to produce an optimised best value WRMP.

¹⁴ This total for PR19 includes requests for supply demand balance expenditure including metering and strategic regional schemes (2021–22 price base)

Several of Affinity Water's supply-side options proposed for delivery in 2025–30 have significantly higher unit costs when compared to PR19 and outturn. These include Slough groundwater, the Grand Union Canal transfer and its proposed 30% share of SESRO, with unit costs ranging from 4.5 to 9.7 £m/MI/d. The company should provide sufficient and convincing evidence that the costs and supply-demand benefits of these schemes and others in its 2025–30 programme are robust and efficient. To get water from SESRO to Affinity Water the company also needs to develop a £176 million transfer, which when combined with 30% of SESRO's costs generates a unit cost of 13 £m/MI/d for 55MI/d. The reason why the strategic and multi-period schemes have higher cost than smaller localised options, which is counter to our expectations that economies of scale efficiencies can be achieved through regional options, should be justified in the final WRMP. The company should provide sufficient and convincing evidence to justify the selection in this context, further noting that significant numbers of feasible options with lower AICs than SESRO are not selected or selected much later in the planning period.

Affinity Water need to provide clear costs, including its confidence in these, and highlight the assumptions made, techniques used and risks to costs provided, as well as indicating the level of market engagement which has been undertaken to develop bottom-up cost profiles for final plans.

Affinity Water needs to be clearer around the robustness and reliability of the costs of developing SESRO. The costs provided have not changed since last submission. Considering the significant additional customer funding provided at PR19 to support its development, we expect robust and up to date costs, presented transparently for all customers and stakeholders to engage with. We would expect a level of maturity in costings to be developed from market engagement to help reduce uncertainty and further evidence will need to be provided in final plans, to provide assurance around costs, and impacts any changes may have on the options selection.

In terms of whole life unit costs, Affinity Water presents £3,266 million investment over preferred options. A large recycling scheme (Broomfield Banks Effluent Reuse) presented higher than average unit costs. For feasible options, new reservoir options present Affinity's highest unit costs. We would encourage Affinity to demonstrate how it will work to reduce costs for its largest and most costly projects relative to benefit. We would also encourage Affinity to provide further information around the wider benefits and reasons for selecting solutions as preferred.

Customer and Stakeholder engagement

Affinity Water has carried out a wide-ranging approach to customer participation and stakeholder engagement reflecting the significant challenges included in its draft WRMP.

However, there is limited evidence provided to give confidence that customers fully understand and support the approach on areas such as the need for investment and the proposed solutions.

We would expect to see further clarity on this, and potentially further work reflected in the final WRMP. Further specific comments are:

- Most research was conducted at WRSE level, so the perspectives of Affinity Water customers compared to the rest of WRSE is unclear in the draft WRMP.
- Affinity Water should provide evidence that customers have enough information, particularly on the development of Strategic Resource Options, including alternatives and its contribution to addressing the water need.
- Affinity Water should demonstrate whether partnership opportunities have been identified to enable co-funding and co-deliver of solutions.

Assurance

A signed statement of assurance from the Board has been provided, as well as a supporting statement, confirming the engagement and support of the Board. A description is given of the governance structure and the assurance process followed to ensure robust decision making.

In the final plan, we expect to see evidence of assurance on Affinity Water's understanding and acceptance of the approach to licence capping. This is to ensure the risk and impact this imposes to Affinity Water is fully understood in the context of the largest drivers of future investment in the plan and the uncertainty that still surrounds this.

As identified above, the draft WRMP programme for 2025–30 represents a significant uplift in expenditure compared to the PR19 programme. For its final WRMP we expect the company to provide sufficient and convincing evidence that the Board has challenged and satisfied itself that the WRMP and the expenditure proposals within them are deliverable in the context of the wider PR24 business plan proposals. The company should also demonstrate that it has put in place measures to ensure that the plans, of which the WRMP forms a key part, can be delivered.¹⁵

¹⁵ Ofwat, [Creating tomorrow, together: Our final methodology for PR24 Appendix 9 – Setting expenditure allowances](#), December 2022, p122.