Thames Water Draft Water Resources Management Plan 2024

Statement of Response

Appendix H Addendum:

Response to representations from individuals

December 2023

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Section 1

Introduction

1.1 Following a review of representations received a small number were identified as not responded to. The following table includes representations that were missed and our consideration of these.

1.2 The table in Section 2 sets out: response ID, stakeholder representation, Thames Water's consideration of the response, changes made to the draft plan and, if no changes, the reasons why not. We have extracted the specific points from every representation and provided a response. Any introductory and overview text is not included.

1.3 If you have any questions on the responses, please email info@thames-wrmp.co.uk

Section 2

Table of issues raised and our consideration

Response ID	Stakeholder response	TW consideration of the stakeholder response	Changes made to the Plan in response to the representation
258	I am a resident in Stroud Gloucestershire and a member of the Cotswold Canals Trust and have seen over the years a lot of information about Water Transfer and am astounded that the Cotswold Canals scheme is not given a higher priority. I am concerned that the very strong support in past consultations for the Cotswold Canals Transfer option does not seem to be influencing the plans. I have a number of family and friends in the Thames Water area and I hear their constant frustrations with Thames Water and their service.	We note your support for the Severn-Thames transfer via the Cotswold Canal. We have engaged constructively with the Cotswold Canal Trust for a number of years and the option is part of the ongoing Strategic Regional Option development programme overseen by the regulatory alliance RAPID. All options that can contribute to a potential solution to the supply demand problems in the region are are assessed using consistent methods. All provide a range of benefits and dis-benefits both individually and as part of a programmes of options (as no single option is enough to solve the problem). We are very aware of the local support for the Cotswold Canal, but we must consider all options in the round and in a long-term context. In our programme appraisal, the Severn Thames Transfer canal variant was not selected. Other options, including reservoir options, water recycling options, and the Severn Thames Transfer pipeline variant were seen to be selected ahead of the STT Canal variant. Appendix J of our Statement of Response (Response to Severn Thames Transfer Representations) gives further details regarding our response to representations received on the canal variant.	We have not made changes to our draft WRMP as a result of this representation. As described, we have considered many different options in our programme appraisal and have concluded that the STT canal variant would not be part of a best value plan for our customers.
258	I think the idea of using the Cotswold Canals to bring water from the Severn to the Thames and on to the South East & London has a huge number of benefits. 1) The calculations for “Best Value” should be reexamined and am sure will find the Cotswold Canals being at the top of the list. Some of the current calculations are questionable such as the additional financial value being £80 million where in fact it could be £800 million.	We note your support for the Severn-Thames transfer via the Cotswold Canal. We have engaged constructively with the Cotswold Canal Trust for a number of years and the option is part of the ongoing Strategic Regional Option programme overseen by the regulatory alliance RAPID. We recognise that the canal option has potential for wider benefits than a pipeline transfer, but it also comes with greater costs and its own risks and operational complexities. The current assessment for the Thames Water area, as part of a regional solution for the South East of England, is that water recycling and Abingdon Reservoir represent part of the best value	We have not made changes to our WRMP as a result of this representation. Our consideration is that our programme appraisal methodology is robust and has been properly documented.

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	2) Environmental and Social Natural Capital benefit is not met by a total underground pipeline but is by the Cotswold Canals scheme. 3) Less disruption by using current planned routes will be quicker with less objections from residents and businesses. 4) 2022 hosepipe ban in SE England shows the water is required urgently and the Cotswold Canal scheme could be achieved faster and at a lower cost. 5) The disruption and delay of HS2 has shown, how important positive public opinion is. The Abingdon reservoir could be your HS2.	solution, in support of substantial leakage reduction and demand management. We are unsure of the specific figures of £80m and £800m which you have referenced, as these figures are not referenced in our dWRMP or rdWRMP document suite. As per the SRO Gate 1 documentation, the canal option limits the maximum transfer capability to 300 Ml/d and requires significantly more investment than the pipeline option. While there is some difference in the natural capital assessment in favour of the canal option, our consideration is that, should the STT be required, the pipeline is the better value option for customers. Section 10 of our rdWRMP describes our reasoning for the selection of our preferred plan. In summary, our decision to promote construction of SESRO instead of STT is based on the assessment that plans in which the STT is used in place of SESRO are more expensive, result in more carbon emissions, and do not deliver the same environmental or resilience benefits, particularly under severe future scenarios.	
1145	I don't agree with the approach. Using this to justify a huge environmentally damaging reservoir builds makes no sense. Also the time spent up to now and go forwards repeatedly trying to justify build projects could have been used to fit leaks. Secondly, it's laughable to suggest you can be trusted with the environment , given your willingness to offload sewage into rivers and pay paltry fines as a cost of business. Whether or not what you have done with sewage is legal it is certainly not moral.	The environmental impacts of the proposed SESRO options have been assessed by Thames Water and presented in both the Strategic Environmental Assessment that accompanies the draft WRMP and also within our Gate 2 submission to RAPID (section 6). This strategic level appraisal of impacts has been taken into account when deriving the best value plan. Any future promotion of one of the SESRO options would need to be subject to a formal Environmental Impact Assessment (EIA). This would be consulted on extensively and scrutinised by a range of statutory bodies including Natural England, Historic England and the Environment Agency, as well as the county highways, county ecologist and archaeologist teams. We would work collaboratively with statutory bodies as well as the local communities to ensure that the environmental impacts were managed and new opportunities for habitat and biodiversity created. Environmental improvements, notably the restoration of river flows, will require the redistribution of abstraction across our region. All options have	We have not made changes to our draft WRMP as a result of this representation. No changes suggested in the representation.

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		impacts (including leakage reduction and demand management) and we have to consider those impacts in a long-term context. In the case of the reservoir there is disruption and damage during construction, but also the opportunity for improvement in the mid-long term. For each scheme in our plan we are committed to achieving a minimum of 10% biodiversity net gain in the surrounding area. Leakage and demand side measures form the majority of the proposed solution to our overall planning problem and remain a priority for us, but it is essential that this is in tandem with the development of new resources. We regard any discharge of untreated sewage as unacceptable, even when it's legally permitted, and that we're absolutely committed to tackling this problem. While overflows were built into the system for good reasons, their use is no longer acceptable to us, or to our customers, and we need to make them unnecessary. This will take time, effort and sustained investment as set out in our Drainage and Wastewater Management Plan (DWMP).	
1145	Given the national target is 110 , 123 doesn't seem ambitious enough.	In the draft plan we set the Per Capita Consumption (PCC) target based on the best available evidence. We made clear in our draft WRMP that further customer reductions were challenging from the analysis carried out to date. Since our draft WRMP further guidance has been received from the Environment Agency, Ofwat and Defra that sets a clear policy and pathway to a national target of 110 l/h/d by 2050 and new targets for Non-household consumption too. Our revised draft plan aims to achieve these new household and non-household targets, and so our plan now includes hitting the 110 l/h/d target by 2050. We have strengthened our programme to roll out smart water meters, work with customers to understand their water use and measures focused on high water users, and explore other measures, such as rising block tariffs. The delivery of this target is not fully within our control and its success will require collaboration stakeholders and our customers, as well as	Following changes in national policy, our commitment to support customers to reduce demand has extended in our revised draft plan to work towards achieving the national target of 110 litres per person per day by 2050.

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		action and policy change (e.g., buildings regulations changes) from the government. We discuss the risk of demand not reducing in line with the revised forecast within programme appraisal (section 11 of the WRMP Main Report), including its monitoring and mitigation.	
1145	No you shouldn't plan for new water sources - planning to fail. It should be to fix the leaks (Thames Water worst performer for leaks).	A twin-track approach of managing demand and resource development is advocated by Government, regulators and water companies alike, as the way to resolve potential supply and demand deficits. The potential scale of the challenge in the South East of England is such that demand management alone would be an insufficient, costly and risky solution. Leakage and demand side measures make up around 80% of our proposed solution (by 2050) and remain a priority for us, but is essential that this is supported by a programme of resource investigation and timely development.	We have not made changes to our WRMP as a result of this representation. Our consideration is that our programme appraisal methodology is robust and has been properly documented.
1145	At TW drop-in meetings, the answer to any serious question or concern is always 'that work has still to be done'. How can this be the case for a proposal first made 25 years ago. I am not convinced a reservoir is even needed.	The WRMP is a strategic plan, assessing need and proposing solutions. Solutions are assessed as conceptual designs, with promising solutions then progressing to more detailed assessment. It is often the case that we receive questions that are matters of detailed design. The detailed design specifications are currently being progressed and environmental impact assessments undertaken. We will be sharing information as it becomes available through various consultation and information events.	We have provided information in response to your comments, there are no changes as a result of your representation.
1145	I do not support your emphasis on the Abingdon Reservoir as an early part of your program. This will take too long to get in place to be effective against an increasing drought probability, and is anyway not resilient to climate change. You should focus on water resource options which bring NEW water into the south-east, or recycle the water we have used before it disappears into the North Sea. You should put water transfer via the Severn Thames transfer scheme into your early plan and deliver it by the mid-2030s. It will bring new water into the area, and is flexible and easy to upgrade. You should also	We note your preference for alternatives to Abingdon Reservoir (SESRO). We continue to assess all Strategic Regional Options (SROs) including the Severn-Thames transfer (STT) and recycling options, via a gated development process overseen by the regualtory alliance, RAPID. We do not agree that the Abingdon reservoir will take too long to develop to be effective against increasing likelihood of drought. Our WRMP is developed on the basis of a supply-demand balance, and the combination of solutions in our plan ensures that supply-demand balance is achieved in all of our Water Resource Zones throughout the planning period. We also do not agree that	We have not made changes to our WRMP as a result of this representation. Our consideration is that our programme appraisal methodology is robust and has been properly documented.

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	increase your focus on Recycling schemes in the London area, as these too can be delivered ahead of a reservoir.	the reservoir is not resilient to climate change, as the Deployable Output assessment undertaken for the reservoir incorporates the impacts of climate change. Based on current assessments, the combination of recycling (Teddington DRA) and SESRO are our preferred solutions with STT and wastewater recycling forming alternatives.	
1145	No. It may be for shareholders - like the dumping of sewage. I believe this plan is a vehicle to drive through construction of a reservoir to sell water to other water companies for the benefit of shareholders.	The construction of a reservoir is only one part of a much wider solution for water resources across the South East of England. Regarding the issue of profit from the reservoir, it is likely that the reservoir would be constructed and owned by an independent third party through the current preferred procurement method, the Specified Infrastrucure Provider Regulations (a very similar model to that used to procure the Thames Tideway Tunnel), rather than developed by Thames with bulk supply agreements. As such, it is not the case that Thames Water would be selling water to other companies. Under the proposed model, Thames Water would not make profit from the construction of the reservoir The calculations used in our investment model do not consider profit for Thames Water as an optimisation criterion.	We have provided information in response to your comments, there are no changes as a result of your representation.
1145	I feel the plan is a reflection of Thames Water and its practices. A monopoly operator with a weak regulator, meaning no accountability to its customers or the environment. I am disappointed to be a customer but have no choice. Thames Water should be concentrating on the basics, fixing leaks, stopping sewage discharges, water transfers from other areas. I support no aspects of this plan.	In this Water Resources Management Plan we set out what we consider to be the best value plan for our customers and the environment to ensure a resilient water supply. A primary focus of our plan is fixing leaks, and we consider that our plan in this area is ambitious. We have considered water transfers as options in our programme appraisal, but as is detailed in Sections 10 and 11 of our rdWRMP, our consideration is that other options present better value for our customers.	We have not made changes to our draft WRMP as a result of this representation. Our consideration is that our plan includes an ambitious plan for leakage reduction and that we have appraised the merits of water transfers and identified better value alternatives. The issue of sewage discharge is outside the remit of the WRMP.

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2486	Anomalies and Inaccuracies The current documents contain several anomalies and inaccuracies, with some examples as follow: Draft Water Resources Management Plan 2024 Section 3 – Demand Section 3.109 – Reference to Figures not carried through, should read Figure "3 – 6, 3 - 7 and Table 3 – 11. I am at a loss to understand Table 3 – 11 and relevance of reference to OXCam Arch under the Guildford field. Section 3.215 – Summary of Demand Tables Tables 3 - 33 and 3 – 35 have incorrectly entered values as they are the same for DYAA when they should represent DYCP figures. Section 3.101 – OxCam Arc Scenarios With the axing of the proposed Oxford – Milton Keynes Expressway and with no mention of the OxCam Arc in the recent Levelling up White Paper, the Government is no longer giving OxCam Arc priority. As this will now be locally rather centrally led, it's unlikely to happen as quickly or on the enhanced scale as currently forecast, i.e. The prediction by TW that 1m new houses will be built by 2050 is therefore unlikely to occur. For the re-issued final version the TW Water Resources Management Plan 2024 reports require a number of corrections.	Thank you for bringing these to our attention. The tables and references which are referenced as being in dWRMP Section 3 (Figure 3-6, Figure 3-7, Table 3-11) do not exist in rdWRMP24. The values in (dWRMP) Tables 3-33 and 3-35 have been corrected in the rdWRMP24. With regard to the Ox-Cam Arc, the Water Resources Planning Guidance states (in Section 6.3) that we should consider population projections including these potential strategic developments. The development of the Arc is uncertain and as such we consider a wide range of alternative plan and trend-based projections as part of our adaptive planning approach. The reason that there is an "OxCam" scenario related to Guildford is that it is important that we produce a plan which works for our whole supply area. With transfers around our supply area, additional growth in parts of our supply area could stretch supplies across our whole supply area and across the region, so it's important that we consider population growth in a coherent manner. As such, the inclusion of this scenario is not an implication that the OxCam arc will mean increased population growth in Guildford, and instead it is the case that the increased growth under this scenario in the Swindon and Oxfordshire, and Slough Wycombe and Aylesbury zones (as well as other zones in the WRSE region) needs to be taken into consideration when identifying transfers across our supply area and the WRSE region. We receive regular updates to the demographic projections from our specialist information providers, which are incorporated into WRMP updates.	Changes have been made to the plan as described in our response to this representation. The figures referenced have been removed, and values in tables have been corrected. We have not made changes to our plan with regards to the OxCam scenario for the reasons set out in our resopnse.
2486	Leakage Performance	Our WRMP includes for ongoing leakage reduction to beyond the statutory target of 50% reduction from 2017/18 levels by 2050. Demand management as a whole represents around 80% of the solution to Thames Water's water resources problem by 2050.	While our demand management plan has been updated between the dWRMP and rdWRMP, no changes have been made as a

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	Taken from the TW website and their notes on 'Our Leakage Performance', page, link to website below: https://www.thameswater.co.uk/about-us/performance/leakage-performance#:~:text=The%20plan%20will%20see%20more,years%20helping%20to%20reduce%20leakage. "Every day we supply 2.6 billion litres of water, but not all of that gets to our customers. At the moment, almost 24% of the water we supply is lost through leakage….." "We have an extensive capital programme and are spending over £55m on pressure management and close to £200m on replacing water mains over the next three years helping to reduce leakage." To put the above £200m TW expenditure figure for pipe replacement into context, TW with a turnover of approx. £2.2bn are spending £384m on net finance costs for F/Y 21/22, i.e. TW currently spending almost six times more on interest pa than they do on pipe replacement. The above finance figure is based on borrowings of £12.935bn for the OFWAT regulated Thames Water Utilities Ltd, (TWUL), TW have further leverage borrowings within the TW group companies, which in a recent Sky news article was stated as totalling £14bn, serviced in part by a dividend payment of £37.1m by TWUL (the OFWAT regulated company) to TWUHL a non-OFWAT regulated company. I draw your attention to recent article in Utility Weekly - 11 Oct 2022, below, which may be of interest, as follows: "Discussing the role of risk management to better manage failing assets, Thames Water's head of London planning, Simon Moore, set out the firm's proactive approach to replacing trunk mains. Described as the "motorways" of the water network, according to Thames, trunk mains carry a significant amount of water at high pressure. Thames, which provides water and wastewater services to 15 million people, oversees a network which includes some 3,600km	We agree that we have more to do on leakage and leakage reduction remains a priority. In the long-term the best way to reduce leakage is through mains replacement, but mains replacement is also one of the most expensive and disruptive solutions per unit volume. As such a solution involving leakage reduction and demand management alone would be very expensive and very risky compared to a twin track programme as advocated by government and the regulators. When putting together our plan, we use an 'investment model' to identify the best set of solutions to the planning problem we're faced with. Options of doing more leakage reduction are presented to our investment model, but these are not selected due to the high level of additional expense. Regarding mains replacement levels specifically, our plan begins with a small length of mains rehabilitation in 2025-30. However, our mains rehabilitation plan quickly increases in pace, with 3700 km of mains rehabilitation included in the plan for the period 2030-50, and 733 km planned in the period 2030-35. Our plan begins with relatively little mains rehabilitation to begin with because there are other things that we can to do reduce leakage in the short term (e.g., install meters to help us better identify where leaks are), but in the longer term the only option to reduce leakage is to replace/renew our water mains. It is important to note that the lengths mentioned above are only the mains renewal lengths which contribute to leakage reduction; there will also be an amount of mains rehabilitation which is needed to keep leakage levels "flat". The numbers stated in your consultation response are incorrect. Our 2017/18 leakage was around 700 Ml/d (0.7bn litres/day) our leakage in 2022-23 was c.650 Ml/d, and this will be reduced to c.350 Ml/d (0.35bn litres/day) by 2050. We have a duty to ensure a resilient water supply for the future, and our modelling demonstrates that both demand management (including leakage and consumption reduction) alongside new resources is necessary.	result of this representation. Our consideration is that our WRMP includes an ambitious demand management programme including significant mains rehabilitation efforts.

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	of trunk mains comprising around 10% of its network – some of which are up to 200 years old. Following eight separate bursts in 2016, the firm conducted a series of internal reviews and subsequently developed a more holistic trunk main risk model prioritising investment, replacement and repair, and the deployment of monitoring devices. Moore described the replacement rate as "very low" – less than 1% per AMP – with 45% of mains pre-WW2 and 15% more than 150 years old, therefore demanding a more proactive approach to maintenance and three key areas of improvement." With the very low replacement rate as described above (i.e. replacing less than 1% of trunk main pipework per 5-year AMP or 36 km), it's very likely that by the end of the WRSE 2070 assessment period, TW will have a trunk mains system with some pipework approaching 250 years old! Presumably, the same age applies to street mains pipes which link trunk mains to property water supply connections. It's no wonder with the low level of planned pipe replacement coupled with the statement by Sarah Bentley in the latest TW annual accounts saying, "it was too difficult and disruptive to repair all the leaks", we have the statement under Draft Water Resources Management Plan 2024 Section 11 – Overall Best Plan, section 11.67, as follows: "Plans with larger SESRO schemes would allow us to better manage the risks associated with the potential for under-performance of demand management actions, the results of which are currently uncertain. If we find that, despite company-led and government-led actions, customers' PCC does not fall as quickly as we anticipate, we would be more able to adapt plans to react in a way that would be beneficial for the long term if we build a larger reservoir, but may need to react and build options quickly if we build a smaller reservoir. Our plan		

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	relies on around 100 Ml/d of household demand reduction and 120 Ml/d of leakage reduction between 2025 and 2040, and if either of these efforts were to under-deliver we could be left with a sizeable risk." Bearing in mind 24% of 2.6bn l/day the current TW water supply is currently lost to leakage, (i.e. 0.62bnl/day), the TW plan only relies on reducing leakage by 0.12bn/l/day, leaving 0.50bnl/day still lost. If this quantity of water was reduced to 0.25bn l/day, there would be no need for the new build SESRO. Before being given approval to build a new reservoir, TW need to work much harder to reduce borrowings and spend the required funds to reduce leakage to acceptable levels, in comparison with other comparable water companies.		
2486	Severn Thames Transfer (STT) In the investment appraisal which forms part of the assessment between completing sources of additional water, the Severn Thames Transfer has been unfairly treated and evaluated, with some reasons as follow: In the investment appraisal figures used to assess this option, the OPEX appears to be based on the forecast that the transfer will be in full operation with continuous pumping, over the appraisal time horizon, which is considered very unlikely. In the calculation of the NPC for this option compared to SESRO, no financial account is taken of the benefit that the STT could be available at least 10 years before an in-service date for the reservoir. Having spoken to a TW representative at a recent Community Information Event, I was told the reservoir was the favoured scheme over the STT as it was a	All options, both supply enhancement and demand management, are assessed using regionally agreed, consistent methodologies. The Strategic Regional Options (such as the reservoir and STT) receive additional scrutiny as part of the gated development process overseen by the regulatory alliance, RAPID. It is not the case that the investment modelling uses full opex (continuous use). Each option has fixed and variable operational costs, with the variable costs being dependant on option usage. Option selection and usage is calculated by the investment model in order to meet the supply demand need. It may be here that you are referring to the values in the WRMP Tables Appendix. These require options to be expressed in a simple way in order to provide a comparison. Our assessments do not indicate that the STT could be completed 10 years before a reservoir. Earliest start dates are part of the information provided for investment appraisal, but options are selected over the planning period based on need and cost, environmental and resilience factors.	We have not made changes to our WRMP as a result of this representation. Our consideration is that our programme appraisal methodology is robust and has been properly documented.

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	simpler and more certain scheme project for TW to implement, i.e, it's not the TW preferred solution. In support of this I draw your attention the Thames Tideway Tunnel project currently under construction and the views of Professor Chris Binnie who was member of the original Thames Tideway Strategic Steering Group, who has stated that since the completion of the Mogden sewage works upgrade and Lee Tunnel completed in 2015 the Tideway now meets all current dissolved oxygen standards, this before the super sewer is fully commissioned and brought into service. After spending £4.2 billion, 4 river spills a year are forecast to still occur and the water quality due to other factors, will still only be rated as 'moderate', so how can this massive expenditure on one scheme be rated as 'good value'? With SESRO I would add this solution has already been rejected by Public Enquiry in 2010 and Thames Water despite many years of evaluation have difficulty and stretch creditability in deciding, whether it should be sized at 100 or 150m m³, if the water is for London or as the latest proposal for transfer to Southampton. I ask that DEFRA in considering the above, to carry out a proper and impartial full financial appraisal to consider the optimum solution in deciding whether the STT is implemented prior to SESRO, if the latter is required. The current poor financial position of Thames Water should not be allowed to influence the current Water Management Proposals for benefit of their shareholders, at the expense of customers.	The full rationale for the selection of the regional best value plan, which our WRMP is a part of, including discussion of the Severn Thames transfer and SESRO is set out in programme appraisal, Section 10. This includes a comparison of the costs associated with programmes including/excluding SESRO. Consideration of the merits of the Thames Tideway tunnel is outside the remit of the Water Resources Management Plan. It is not the case the SESRO has previously been rejected at an Inquiry. The 2010 Public Inquiry was about our 2009 WRMP as a whole, not SESRO specifically. In the 2009 plan we included an allowance for abstraction licence reduction, for environmental benefit of around 100 Ml/d. This allowance was deemed too uncertain and we were asked to remove it which changed the solution. It is noteworthy that now 14 years later an allowance is required to be included in our planning by the regulators, and at a much higher level than we originally considered, of up to around 400-500 Ml/d. Thames Water's corporate finances have not influenced the choices made in our Water Resources Management Plan (WRMP). In producing our WRMP, we use an investment model to identify the best set of solutions to the planning problem with which we are faced. The objective function used in the investment model ensures that the cost to customers of different schemes is the focus, and our 'least cost' run ensures that this is minimised. There is no measurement or optimisation of profits to Thames Water in the investment model.	
8182	I do support a reduction in the amount of water companies take from fragile chalk stream supplies, but do not agree with the scale of reductions which you propose. You should prioritise the most vulnerable environments and focus on those environments which are identified by experts such as Chalk Streams First. This will reduce the amount of water you have to replace.	The abstraction reductions in our plan target vulnerable catchments first, and are based on the approach that should be taken in defining a regional environmental destination, which is set out by The National Framework for Water Resources and Water Resources Planning Guideline. The guidance sets out the requirement to plan for the BAU+ and Enhanced scenarios, which both align with our "High" Environmental destination scenario (there being little difference between the BAU+ and Enhanced scenarios in our	Our consideration is that our scenarios of abstraction reduction follow the guidance of our regulators, and that the scenarios do prioritise abstraction in the most vulnerable catchments first. As such, we

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	At the moment Thames Water has no Environmental improvement credibility.	supply area). The "High" scenario is what has been included as the preferred plan in both the WRSE draft & revised draft plans and our draft and revised draft WRMP. We recognise the requirement to improve our track record compared to past performance in some areas. This is why we have announced our turnaround plan, which will address issues related to waste discharges. Our plans for waste are covered in our DWMP whereas our WRMP focuses on water resources issues.	have not made changes to our plan as a result of this representation.
8182	The WRSE regional plan showed the 2050 target of the other 5 companies in the group ranging between 106 and 113 litres per person per day (lpppd) with an average of 108 lppd - within the national target of 110. So why is Thames Water aiming for a much higher 123 lpppd? This is unacceptable. It appears that you choose your own targets when you feel fit and Government targets when they are convenient. Thames Water must undertake a faster rollout programme for smart metering, lobby for quicker introduction of government regulations on domestic appliance efficiency and improve customer advice and education programmes. Much better use could be made of smart meter provided data to rapidly fix leaks at the household level and identify and educate, high users.	In the draft plan we set out an evidence-based plan to reduce Per Capita Consumption (PCC). This evidence-based plan demonstrated that with moderate government intervention we could achieve a per capita consumption of 126 l/h/d by 2050. Our consideration when we constructed our draft plan was that assuming further reduction below this level would be too uncertain to plan for. The 110 l/h/d target did not feature in the Water Resources Planning Guideline at the time of publishing our draft WRMP. Since having produced our draft plan, the Environmental Improvement Plan has been published and the Water Resources Planning Guideline has been updated. The Water Resources Planning Guideline now states that we should plan to achieve the 110 l/h/d target by 2050, in the dry year scenario. In light of this new guidance, we have amended our plan to include achievement of the 110 l/h/d target by 2050. The actions in our control have not changed significantly between the draft and revised draft plan, and so our assumption is that significant government intervention will occur in order to help people use less water. Metering targeting Thames Water is implementing a Government-approved compulsory meter installation programme. Similar metering programmes are happening in other water supply regions. We took an industry lead role in opting for smart water meters to increase the leakage and usage reduction benefit. Our installation of smart meters in homes and businesses is already delivering a measurable reduction in usage and water loss across household and business customers, but there is more to do and our plan sets out the completion of	Following changes in national policy and the water resources planning guideline, our revised draft plan includes achieving the national target of 110 litres per person per day by 2050.

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		the smart metering programme. Already, the vast majority of commercial customers on our network are set up with meters with 18% currently smart metered, increasing to 75% by 2030. Total commercial meter penetration is approx. 90%. By 2034/35, over 80% of the households on our network will be metered, and by 2039/40 this will increase to over 90%. Due to the complexity of older and converted buildings in London and Thames Valley, there will be a small component that will be deemed unmeterable, however the water use on these sites will be monitored through non-revenue bulk meters. Government-led water use reduction policies In addition to the actions we can take, the government is planning to introduce measures to support long-term, sustainable water use across the UK, including labelling all water-using products, bringing in new standards for these products and updating building regulations for new homes and retrofits. Direct incentives are unlikely to be large enough to influence house builders. We are working with several government-led steering groups to scope future mandatory water labelling and strengthen the water efficiency standard of new build properties and tighten water regulations. These standards may see alignment with the proposed mandatory water labelling scheme, and fitting of grey and rainwater harvesting systems become business as usual. Expectations that the government will take future action are included in our forecasts. Education and campaigns to promote water efficiency Both small-scale (smarter home/business visits) and large-scale (advertising campaigns) educational campaigns are being considered for the future. These have been considered within our demand management programme, with the former utilising smarter home and business visits to educate customers on water efficiency and prevention of wastage. For the latter, media campaigns are considered as part of our wider household innovation. Intensive area based media campaigns are designed to raise awareness about water resources and water efficiency solutions in specific locations throughout our supply area. In dWRMP24, we revisit these campaigns to provide more focus to link water savings with environmental value and protection in the local area and include the promotion of local activities to	

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		help save water. Media campaigns in the shorter term will raise awareness of all Water Efficiency activity and assist to increase the take up of our specific water saving initiatives. Metering to identify property leakage As we progress with our metering programme, we'll be expanding our utilisation of the data we collect to better identify leaks on domestic and commercial properties. When smart meters installed on household customers register 'continuous flow' over a set number of days, we engage directly with the household customer informing them of the potential leak and offer a range of leak fix options. To date, this proactive engagement activity is resulting in the majority of customers fixing their own leaks with a week of notification. Currently, retailers can access commercial property smart meter data through our Digital Data Service. Our commercial Digital Data dashboard also has real time data showing any meter with continuous flow, which can be used by retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through retailers to notify of any continuous flow alerts from our smart meter data, enabling business to self fix. Better metering data for customers All household customers that have had a smart meter installed currently have access to their usage and leakage information through Thames Water online. We are actively promoting online account registration to increase the customers that can benefit from both personalised water efficiency advice and paperless billing. We are currently developing new customer engagement capabilities that use smart meter consumption data to deliver proactive digital engagement for changing behaviours and enabling customer self-fixing of customer-side leakage and internal leaks. On the commercial user side, we launched our new Digital Data Dashboard and Service in 2022 - to allow Retailers and 3rd parties to access commercial property smart meter data on a live dashboard. The dashboard includes real time data showing any meter with Continuous flow, which can be used by	

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		Retailers to contact the end user/business quickly to help reduce the impact of leakage or wastage and reduce water demand and high bills. We will continue to contact businesses direct as well as through Retailers to notify of any continuous flow alerts from our smart meter data, enabling businesses to self fix.	
8182	Your decision to accept the Government target of 50%reduction in leakage by 2050 in unambitious. Your statement on leakage reduction performance since 2018 only arose because of the results of leaking pipes in London where some 55% of leakage occurs. A more ambitious target for 50% reduction would be by 2040. Why does Thames Water appear to put so little effort into research and development and innovation. We would expect to see a significant section in the draft plan on innovation and future improvements enabled through new technology. World-wide there are some extremely good examples why have you not taken advantage of these? Why does the use of desalination plants not feature? Your all approach to future water demand is questionable and suffers from a large degree of uncertainty, Thames Water should use more informed future population growth, sustainability, leakage, environmental issues and leakage data instead of manipulating to achieve less cost, more profit scenarios. There is so much uncertainty in your figures that they are essentially meaningless.	Leakage reduction Reducing leakage is a priority for us. Right now, around 24% of the water put into our distribution network is lost through leaks from our own network of pipes and our customers' pipes. We know it's not acceptable to be losing so much precious water and we're investing significantly to tackle this. The weather conditions during 2022/23 have challenged us operationally and we're not where we'd like to be on leakage. The hot and dry summer last year created an unprecedented 'soil moisture deficit'. As the ground dried out, our pipes and our customers' pipes moved and cracked, leading to an increase in leakage. Large increases in demand, as much as 50%, led to increases in unmeasured consumption impacting leakage further as we pumped more water through our pipes. We've estimated that this event increased our leakage position by at least 10%. In the month of December, we experienced the coldest days since the 'Beast from the East' in 2018. Daily minimum temperatures fell widely to between minus five degrees Celsius and minus ten degrees across the United Kingdom on several nights. The freezing temperatures caused the water in our pipes to freeze and expand. Temperatures then rose significantly, between 17 and 18 December, with increases of over 17 degrees Celsius within 24 hours. This rapid increase in temperature meant that our pipes thawed quickly, which caused them to move and crack, heavily impacting our leakage performance with a 37% increase in operational reported leakage and an increase of more than 1,000 visible burst mains. However, in terms of risk to customer supply we recovered quickly, avoiding major losses of service to customers, because of increased resource we had in place from the summer drought. To get us back on track we're making changes to the way we work but the significant impact of these weather events on leakage means we will miss our	We have not made changes to our draft plan as a result of this representation, for the reasons set out in our response.

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		2022/23 leakage target. We have formally reported on our 2022/23 year-end performance in July. As annual leakage targets are based on a 3-year rolling average, the impact of this year will be felt, not just this year but for the next 2 years' performance. Despite this we remain committed to doing everything we can to achieve our regulatory target to reduce leakage by 20.5% by 2024/25. We're currently fixing more than 1,000 leaks per week across our network meaning that, on average we're fixing a leak every 10 minutes, 24 hours a day. Our goal of reducing leakage by 50% by 2050 (from 2017/18 levels) is already ambitious and operationally challenging. Our plan includes achievement of 40% reduction compared to 2017/18 levels by 2030; the bulk of the remaining leakage reduction will then need to be achieved through mains rehabilitation which is very expensive and disruptive. As such, we do not agree that we should aim to achieve the 50% reduction target by 2040. In our programme appraisal, we have examined scenarios that see the targets delivered sooner (and later), but the need is such that demand management and resource development have to proceed in parallel. Additionally, while it is true that our plans with regards to London demand management are more intensive than other areas, this is driven by the comparatively large potential for leakage reduction. Innovation Thames Water puts a considerable focus on innovation. We have an established Innovation Department, as well as embedding innovation within each department and team, enabling us to better meet the evolving needs of our customers, society and the environment, by developing and using ambitious, and sustainable technology. Within our innovation portfolio, we are a major contributor to the Ofwat Innovation Fund, where we are supporting over £35m worth of projects by building and strengthening collaboration and partnerships across our partner water companies, the supply chain, academia and outside the water sector. Additionally we deliver	

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		globally recognised scientific research which is funded wholly by the business. With regards to our WRMP, innovation features significantly. There are large amounts of demand reduction, both leakage and consumption reduction, which will need to be delivered through measures which are currently not yet known and which we have assigned to "innovation" options. Desalination In relation to desalination, we have looked at a wide range of solutions to reduce the shortfall between the amount of water we have and the amount we need, including reducing demand, creating new sources of water and improving catchment areas. Working with Water Resources South East (WRSE) we've been exploring new ways to increase water supply, including desalination plants, water recycling systems, new reservoirs, and national and regional transfers of water. We've assessed every option for cost, water output, the time to deliver the scheme, potential impact on the environment, carbon footprint, and futureproofing. Possible sites for desalination plants have been identified at Beckton and Crossness in London. In general, compared to the alternatives, desalination plants are expensive, result in a lot of carbon emissions, and have negative environmental impacts associated with hypersaline brine discharge. As such, they do not tend to appear as preferred options in our plans. However, in the adaptive plan the Beckton desalination plant (150 Ml/d) is selected to be delivered in 2050 under the most challenging future pathway, Pathway 1, and Crossness desalination plant (50Ml/d) is selected in 2061. Further information on the selected options can be found in Section 11 of the Plan. Uncertainty We acknowledge that there is a large amount of uncertainty present in our forecasts of baseline supply-demand balance. The uncertainty in our forecasts exists because there are several uncertain factors that we must plan for. We have explicitly dealt with this uncertainty in our plan by adopting an adaptive planning approach, in order to determine an adaptive best value plan. In our adaptive plan we have considered both population growth forecasts based on local authority plan-based population projections (as is	

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		required to comply with the Water Resources Planning Guideline), as well as growth forecasts based on ONS projections. These forecasts are produced by expert consultants, Edge Analytics. The licence reduction forecast set out in the preferred plan of our WRMP is based on a scenarios produced by the Environment Agency, communicated through the National Framework for Water Resources. It is important to acknowledge, however, that our adaptive plan also includes scenarios of lower volumes of licence reduction. We feel that our leakage reduction plan is ambitious but deliverable. Our plan involves hitting the 50% leakage reduction 2050 target set by government. Profits It is not true that our plan is one which maximises profits. The Regional investment planning approach involves modelling in which the first step is establishing the least cost (to customers, on a net present value basis) plan which solves all deficits across the region. In this modelling, payments to capital are considered explicitly within the costs associated with each option, and so the model is more likely to be weighted against options from which Thames Water may derive a profit. In addition, the larger options are unlikely to be owned and operated by Thames Water, with a more likely outcome being delivery through a Special Purpose Vehicle through either the Direct Procurement for Customers or Specified Infrastructure Projects Regulations procurement models.	
8182	It is impossible for any judgement on 'best value' to be made since Thames Water refuse to release any meaningful cost data for any of their projects and give hopelessly optimistic estimates of the supposed leisure benefits of the reservoir. In the last consultation, Thames Water were adamant that the reservoir had to be 150 million cubic meters and went to great lengths to explain why it couldn't be smaller. Suddenly it is 100 million cubic meters, with no explanation. How can the company expect its proposals to have any credibility? The current diagram in the consultation document is for a 150Mm3 reservoir!	Best value is assessed at regional level, based on a balance of cost, environment and resilience metrics. These are calculated at a scheme level and then combined when schemes are put into programmes to meet the future challenges. We do not agree that we have refused to release cost data. The SRO gated documentation and WRMP Tables contain a great deal of detailed cost information. The inclusion of SESRO in the plan is reflective of the fact that this drives the overall best-value plan for the South-East. It provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames. This is a new source of water during lower flow summer periods that would otherwise not be available for use.	No changes were made to our plan as a result of this representation, for the reasons set out in our response. However, the Programme Appraisal for the revised draft plan has been re-done and Sections 10 (Programme Appraisal and Scenario Testing) and 11 (The Overall Best Value Plan) have been re-written

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	The whole Water Plan as it stands is based on desk studies and modelling. Without credible, verified input data, the outputs are shrouded in uncertainty. Without visible cost data how can Thames Water claim that certain schemes are more costly than others?	The draft WRMP24 plan required the Severn to Thames Transfer (STT) to be ready by 2050, after Teddington Direct River Abstraction and SESRO. For the revised draft WRMP24 plan we have selected the SESRO 150 Mm3 option from 2040 as the best value solution to the planning problem that we face. For detail on the selection of options in the preferred plan please refer to Thames Water rdWRMP24, section 11 – The Overall Best Value Plan. More detailed technical appraisal of the SESRO options can be found within our Gate 2 submission to RAPID, reflective of the level of scheme development, funding and analysis prescribed at this stage in our regulatory process. The WRMP is a strategic plan, assessing need and proposing solutions. Solutions are assessed as outline designs, with promising solutions then progressing to more detailed assessment. It is often the case that we receive questions that are matters of detailed design. The detailed design specifications are currently being progressed and environmental impact assessments undertaken. We will be sharing information as it becomes available through various consultation and information events. While uncertainty is present, this is a necessary part of our planning. Our Best Value Plan is one which we feel is the best value plan, acknowledging this uncertainty. Relative costings of alternative programmes of options are provided in Section 10 of the WRMP Main Report. Relative costings of individual options are provided in the WRMP Tables. The reservoir provides a new source of water for the South-East by providing the storage for excess winter flows in the River Thames. In effect this is a new source of water during lower flow summer periods that would otherwise not be available for use. We use hydrological and water resources modelling to calculate the amount of water that we can supply in a drought, and to calculate the additional amount of water that different interventions would allow us to supply. Our modelling incorporates river flows and operational constraints (e.g., abstraction licences and hands off flow conditions) and so the deployable output assessment for the reservoir incorporates the need to fill the reservoir. The reservoir is intended to work alongside our existing	following comments received and updates to the input data.

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		supplies and so we do not assess the supply capability of "the reservoir" (or other options) and instead assess the supply capability of our water resources system with and without the reservoir (or other options) in order to assess the supply benefit. This is important as the same solution would provide different benefits according to the vulnerabilities of the system of interest. Our existing supplies are most vulnerable to droughts of c.18-24 months' duration and it is droughts of this length which the reservoir is best suited to providing resilience for.	
8182	As your water source options for the proposed reservoir and Severn Transfer Transfer are “desk top” studies shrouded in uncertainty I do not consider that the SERSO is the correct option. The phasing of the reservoir and STT could equally be considered with the STT being done first, with no need for a reservoir, see the data in the background section.	Our work has shown that a new reservoir is a better option than a transfer from the River Severn, as it is: • Less expensive overall, with lower running costs; • Is more resilient - in a drought, it’s hard to predict exactly when we’ll need extra water supplies. The lead time to get water from the west of the country would be between three and four weeks, whereas it would be readily available from the reservoir and it is more resilient to our changing climate; • Forecasts suggest we’ll see more droughts occurring at the same time across the whole country, so when the South East is in drought, the water for the transfer may actually be needed by customers in the Midlands and North West • The reservoir also has the potential to provide a wide range of economic, social and environmental opportunities – boosting biodiversity, natural capital and recreational benefits beyond those that can be offered by the water transfer. This is why many customers tell us they’d prefer a new reservoir over other schemes. The Severn to Thames Transfer (STT) is no longer required from 2050 in the revised draft WRMP24 due to the updated requirement in the Water Resources Planning Guidelines to reduce average per capita consumption (PCC) to 110 l/h/d by 2050. We will however continue to develop the STT as an adaptive option to mitigate the risks that SESRO could not be developed, or if government water efficiency policies do not reduce demand (or PCC) to the levels anticipated. In relation to the Severn Thames Transfer, we have collated and summarised responses in the Statement of Response Technical Appendices Appendix J.	We have not made changes to our plan as a result of this representation. As is described in our response, our consideration is that our programme appraisal has demonstrated that SESRO is the better option.

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8182	It is claimed that the Thames Water plan uses an “adaptive plan”. This may be considered valid whilst in the “desk-study and option stage” but, when a preferred option is declared, detailed design and site evaluations undertaken an construction started it is no longer adaptive. At this stage with the high degree of uncertainty in the data and non-visible cost comparisons how can Thames Water credibly justify their current Water Plan proposals.	We don’t know exactly what the future will bring, so our plan is adaptive. We’ll monitor the future and adjust our plan accordingly but investing now will means we can: cope with the changing climate; leave around 20% more water in the environment around us and support growth in our communities and our businesses. Cost data on different options is transparent and available in the WRMP tables. While uncertainty is present, this is a necessary part of our planning. Our Best Value Plan is one which we feel is the best value plan, acknowledging this uncertainty.	We have provided information in response to your comments, there are no changes as a result of your representation.


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