WRMP24

STATEMENT OF RESPONSE

Jim Barker (Head of Water Resources)
Portsmouth Water Ltd
PO Box 8
West Street
Havant
Hants
PO9 1LG

August 2023

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

Our WRMP sets out how we intend to achieve a secure supply of water for our customers and a protected and enhanced environment.

Water Companies in England or Wales must prepare and maintain a water resources management plan (WRMP) at least every 5 years and review it annually. This requirement is set out in sections 37A to 37D of the Water Industry Act 1991.

Introduction

Engagement with regulators, stakeholders, employees, customers and other water companies across the South East was fundamental to the development of our WRMP. There were two parts to our engagement: our own company-specific engagement with our stakeholders and customers; and through the collaborative regional water resource planning process through Water Resources South East (WRSE).

Our company-specific engagement was formalised through a pre-consultation process that invited comment and feedback from 169 representatives of regulators, NGOs, Councils and interested groups. Dedicated pre-consultation discussions were held with 3 regulators; Environment Agency (EA), Ofwat and Natural England (NE) and targeted customer research into priorities and preferences was undertaken by Blue Marble.

On 15th November 2022 we published our draft Water Resource Management Plan 2024 (dWRMP24) for consultation. The public consultation ran for a 12-week period and closed on 20th February 2023. We would like to thank all the individuals who shared their views, and the views of organisations they represent, during this public consultation.

This Statement of Response (SoR) describes the responses we received during the public consultation of our dWRMP24 and associated Environmental Assessment reports. It is a record of how we engaged our customers, stakeholders, and regulators during the consultation period and of how we have considered and responded to the responses we received. In some cases, we have responded to comments within this document, but in other cases we signpost where we have made changes to our WRMP24 to address the comments or provided a written response. All comments have a written response as detailed in Appendix C and D.

The revised draft WRMP24

This SoR is to be considered alongside a revised draft WRMP24 (rdWRMP24). Content that has been updated since the dWRMP24 is shown highlighted in yellow. The rdWRMP24 is being published for information, and not for a further period of public consultation. As well as updates in response to the consultation comments we received, this rdWRMP24 includes updated outputs and data from the WRSE regional modelling which included updated data in relation to:

- population and growth forecasts to reflect updated data not available previously,
- demand forecasts to reflect the above, and updating the base year for forecasts,
- data and information on individual options, including option timing, costs and best value metrics, and option availability,
- demand management options, including commitments to leakage and PCC targets and considering Government policy expectations, including in the Government's Environmental Improvement Plan, and
- other data updates to reflect new data availability.

Alongside this work, we have updated the environmental assessments of the options in the plan, including in combined assessments of the options, taking account of consultation feedback from environmental regulators and other stakeholders.

The rdWRMP24 includes new appendices to respond to either new regulatory expectations or areas of our plan that received a wide range of requests for additional information.

This SoR and the rdWRMP24 will be reviewed by our regulators and with the Secretary of State's permission, it will be considered as our final WRMP (fWRMP24) for the period 2025-75. It will then be monitored and reported on each year and fully revised for WRMP29.

Please note our Environmental Reports will be published 22nd September 2023, shortly after the rdWRMP24 publication. This delay is to allow for co-ordination with neighbouring water companies and across the Region and final consideration of the potential for in-combination effects with their Plans. This will ensure that Plans across the Region and the understanding their significant effects across a range of environmental topics, will be as robust and comprehensive as possible.

Statement of Response Structure

The document is structured as follows:

Section 1 of this Statement of Response details our approach to the public consultation of our dWRMP24. This includes the range of activities we carried out to engage customers, regulators and stakeholders and understand their views on our plan. These engagement approaches included an online Barometer customer panel survey and structured website survey questions, as well as through emails that were sent to us and to Defra.

Structured multiple-choice questions in our Barometer and website surveys provide overall headline data about the level of support for the plan as a whole and the specific areas we asked about.

Section 2 summarises the technical updates we have incorporated into the rdWRMP24. These updates reflect new information or modelling outputs that have become available since the publication of our dWRMP24. They also include our responses to the new regulatory requirements sent out in a March 2023 revised version of the Water Resources Planning Guideline and the demand management targets within Defra's January 2023 Environmental Improvement Plan (EIP).

Section 3 summarises our learning from the 2022 drought event and how we have considered this in revising our dWRMP24.

Section 4 presents overall impressions of our plan along with how many comments we received about each of the sections of our plan, and the areas that different groups of responders commented on.

Section 5 provides details of how we have addressed the specific regulatory compliance points raised by the Environment Agency within their consultation feedback.

Section 6 addresses our response to the comments we received about an option in Southern Water's dWRMP24, the Hampshire Water Transfer and Water Recycling Project (HWTWRP).

Section 7 explains the next steps in the development of our WRMP24.

Appendix A is a table of the Regulatory guidance for the public consultation of WRMPs and the production of this Statement of Response.

Appendix B presents an overview of the key consultation themes for each section of the plan.

Appendix C presents the actual feedback received and our responses grouped by section of the plan or theme. Each individual comment is recorded along with our response to the issues raised, and an explanation of how the representations have influenced the rdWRMP24 and a signpost of where the relevant updates are in the rdWRMP24.

Appendix D is as per Appendix C but our responses are in numerical order of respondent logged code (i.e. SoR01, SoR02). For reasons of data privacy, members of the public have been anonymised and allocated a reference number which has been communicated to them via email.

Appendix E contains a list of the organisations that provided a named response to our dWRMP24 consultation.

Appendix F presents the Ofwat queries on the dWRMP24 and the replies provided to Ofwat.

1 OUR APPROACH TO CONSULTATION

We would like to take this opportunity to thank all those who took the time to engage with our dWRMP24 and to share their thoughts about it with us.

We invited people to feedback on our dWRMP24 through a variety of routes. This was with the aim of reaching out to and engaging as many people as possible. Receiving feedback through several routes provided the opportunity to compare and validate the findings across the different research methods, giving us greater confidence that we were correctly understanding the views of our stakeholders and customers.

1.1 Consultation activities

To ensure our plan was accessible to a wide range of stakeholders and customers, we produced a non-technical stakeholder summary (see Figure 1),alongside the plan and more technical supporting appendices, and made this available to be viewed and downloaded on our website. A list of key consultation activities is provided in Table 1.

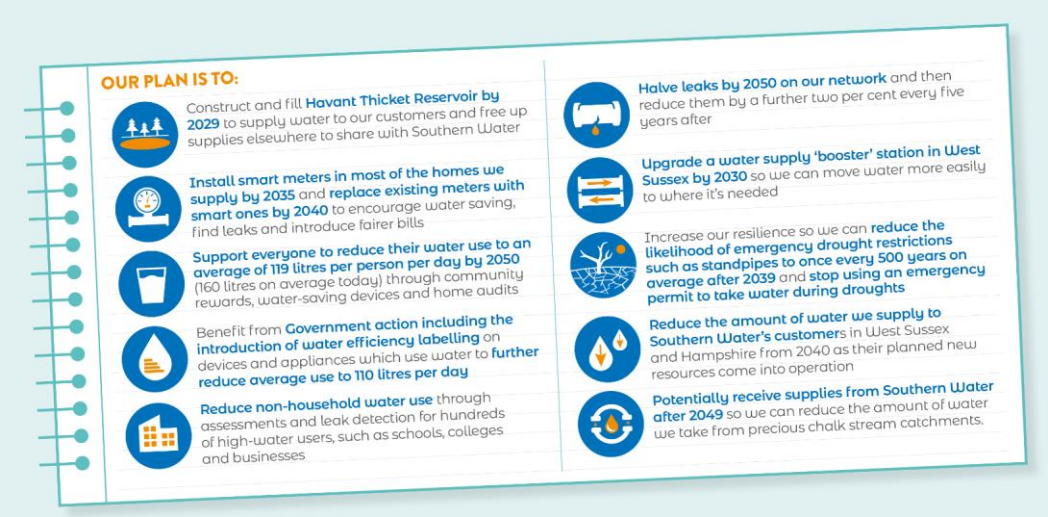


Figure 1: a summary of our plan contained within the non-technical summary

We invited representations on the dWRMP24 to be sent to the Secretary of State. In accordance with requirements prescribed in Section 3.6 of the Water resources planning guideline[1].

As well as welcoming written consultation responses, to promote wider engagement we encouraged people to complete a survey hosted on our website. We also promoted the consultation on social media. An example is shown in Figure 2.

[1] Water resources planning guideline - GOV.UK (www.gov.uk)

Figure 2: a social media post encouraging customers to share their thoughts about the dWRMP24

A number of these consultation activities were undertaken in partnership with Southern Water due to the high interconnectivity of customers and collaboration between the Water Resource Management Plans of both water companies. An example is shown in Figure 3.

Figure 3: Signs in place at Havant Thicket Reservoir site encouraging people to share their thoughts on our dWRMP24 as well as that of Southern Water.

Other activities were carried out at regional level as part of the Water Resources in the South East (WRSE) group who ran a consultation in parallel with our own (see Figure 4), consulting on the draft best value regional plan for water resources across the South East region[2].

[2] Our draft best value regional plan | Water Resources South East (engagementhq.com)

Figure 4: WRSE promoting the consultation on the regional resilience plan for water resources at a parliamentary event on the 16th November 2022

Table 1: Timeline of dWRMP24 consultation activities

Date	Engagement activity and reach - How many People were engaged
15th November 2022 – Consultation starts	• Information and links on Portsmouth Water website go live with documents, survey and WRSE information • Press release sent to around 50 contacts including local media, BBC and trade press. • Email sent to nearly 400 stakeholders including MPs, local authorities, developers, Environment Agency, Forestry Commission etc. • LinkedIn post which received 2,122 views, 89 clicks and 50 reactions • Workplace post to staff was viewed 149 times receiving 4 reactions
16th November 2022	• WRSE launch event for the draft regional plan was held at the Houses of Parliament in London. Although this was a launch event for the draft regional plan, the dWRMP24 Consultations of each of the six companies that work together as a region, was signposted, including our own. This was attended by Bob Taylor, Chief Executive Officer, Portsmouth Water. More than 60 stakeholders attended including MPs, regulators, environmental groups, local authorities, trade associations for large water users and other water resources regions. South East MPs and peers from the House of Lords also attended with Chairs of parliamentary select committees and All Party Parliamentary Groups (APPGs).
30th November 2022	• Presentation to Havant Thicket Reservoir stakeholders

1st December 2022	• Webinar reminder email for stakeholders • Email sent to all retailer contacts
6th December 2022	• Email sent to catchment management contacts
7th December 2022	• Webinar for stakeholders was jointly hosted between ourselves and Southern Water 7 Dec 2022 Portsmouth Water / Southern Water dWRMPs consultation webinar on Vimeo Over an hour and a half, presentations provided an overview of the regional water resources context as well as our Portsmouth Water dWRMP24 proposals and the Southern Water dWRMP24 proposals with Q&A sessions after each presentation. There were 67 attendees at the webinar, in addition to the presenters and administrators. These came from a range of organisations including: ○ Council officers and councillors from parish councils, Winchester, Chichester, Horsham, Fareham, Arun, West Sussex, Isle of Wight, Test Valley and Havant councils ○ MP representatives ○ Environment Agency and Natural England ○ CCW ○ Arun and Rother Rivers Trust (AART) ○ Businesses
Between 7th – 16th December	• Customer direct emails
12th December 2022	• Presentation to Customer Scrutiny Panel
28th December 2022	• Social media campaign starts Our Facebook post received 931 views, and reached 769 people, 127 of whom engaged with it.
9th January 2023	• Customer emails restart
11th January 2023	• Bob Taylor, Chief Executive Officer, and Stephen Cox, Water Resources Manager, brief management at Havant Borough Council
16th January 2023	• E-Newsletter sent to 426 recipients who had previously requested updates relating to Havant Thicket Reservoir
Between the 13th and 30th January 2023	• Wave 4 of 'Water Talk', the consumer panel 434 Portsmouth Water bill payers who are part of the 'Water Talk' panel took part in an online multiple-choice survey. More information about this survey is in Section 1.3.
3rd February 2023	• Signs in place at the Havant Thicket Reservoir site
15th February 2023	• Bob Taylor, Chief Executive Officer, attended a public meeting in Havant hosted by Havant Borough Council on the topic, Hampshire Water Transfer and Water Recycling Proposal[3]' • Approximately 70 organisations with connections to the Havant Thicket Reservoir project attended, including Forestry England, Havant and East Hants councillors, voluntary organisations and environmental groups

[3] The presentation slides for this public meeting were jointly produced by ourselves and Southern Water and are published on the Havant Borough Council Website - Welcome (havant.gov.uk) https://cdn.havant.gov.uk/public/documents/HBC%20public%20mtg%20Feb%202023.pdf

1.2 Listening to and responding to feedback

In total, we received 708 individual responses to our dWRMP24 consultation from customers and organisations. These consisted of 159 emailed text responses[4], in addition to multiple choice data from 434 customer panel surveys and 115 website surveys (that contained both multiple choice questions and the opportunity to add commentary text). We accepted and included responses received after the end of the consultation deadline.

The data within the surveys is largely quantitative. This enables us to look across the responses to compare trends and the most common views about the topics we asked about. Comparing responses to topics that were asked about in both the customer panel (the Barometer) and the website survey gives confidence in the validity of the results. We used the overall findings and trends shown in these survey results to influence the continued development of our WRMP24. Specific findings by topic have been included in Appendix B and C of this report. A summary of the overall survey results in contained in Section 4 of this SoR.

There was an opportunity at the end of the website survey for respondents to write any other thoughts and comments they wanted to share with us. Of the 115 website surveys completed, 79 respondents chose to provide written commentary in the text box provided and these comments were considered in the same way as other written consultation responses received through emails.

The written consultation responses provided detailed insight into the views of customers, regulators, and stakeholders about specific areas of our dWRMP24. We read each of these and identified 1,292 separate comments from the 159 email responses and 115 website surveys[5].

Each of these 1,292 comments is individually reported along with our response to it and resulting changes to our WRMP in Appendix C of this Statement of Response. Section 4 of this SoR contains a summary of comments received by topic and our responses for each of the areas of our WRMP.

To ensure each consultation response was appropriately considered we followed the following six step process:

Step 1, Logging

- All consultation responses were logged. These were the combined outputs of email responses, online surveys and regulatory feedback. Multiple choice data was used to look at trends and overall acceptability of parts of our plan, whereas text provided was carefully read and 1,292 individual comments were logged in a consultation tracker. Comments were paraphrased where required to ensure the core comment was logged.

- To ensure good data management, in accordance with GDPR requirements, each consultee was allocated a unique Consultee ID, and each comment was allocated a unique comment ID consisting of the consultee ID with an alphanumeric sub-code. Individual details were not saved in the response log, but the response was saved with the Consultee ID in the file name.

Step 2, Categorising

- Each comment was sorted according to the main section topics of the WRMP it related[6] to, and where appropriate a subtopic.

[4] This includes 21 regulatory queries from Ofwat during the consultation process
[5] There were a further 44 comments which were logged for completeness but they were incorrectly sent to Portsmouth Water, were duplicates or there was no commentary provided.
[6] Please note that some comments could relate to multiple sections of the plan but the comments were logged against the core theme of the comment.

- Whilst we excluded the consultation comments which were meant for Southern Water, we did include the consultation comments linked to Southern Water's HWTWRP due to the interlink with Havant Thicket Reservoir and our supply system.

Step 3, Allocating and responding

- Each comment was allocated to an individual who had responsibility for the respective part of the WRMP. They drafted a response and to indicate if additional work was required to answer the query, and if updates would be likely to the rdWRMP24 as a result.
- 666 comments were about the HWTWRP (including linked comments about Havant Thicket Reservoir). Although this option was part of Southern Water's dWRMP24, it is the proposal for a recycling scheme to supply our Havant Thicket Reservoir and then for the water to be transferred via a direct raw water pipeline. We discussed an appropriate way to consider these with Southern Water and agreed to consider them in partnership and to jointly produce a dedicated appendix addressing these comments.
- We held dedicated meetings with Ofwat, Environment Agency and Natural England to discuss and clarify comments to support the response to Regulator comments.

Step 4, Check and review

- A check of all consultation comments and responses was carried out to ensure all comments were addressed and sections completed.
- Consistency Checks were done to ensure similar responses are responded to the same way.

Step 5, Sign off

- The Portsmouth Water WRMP Steering Group provided scrutiny to the process of producing the SoR and rdWRMP24.
- The Board of Portsmouth Water have received two Board Papers about progress and authority to approve the SoR was delegated to Bob Taylor (CEO) to review and sign off the draft Statement of Response.

Step 6, Revising the dWRMP24

- Resulting changes were made to the rdWRMP24. We also updated technical information from new data and updated modelling that is available now that was not available when we were preparing our dWRMP24. These updates are included in a rdWRMP24 published alongside this SoR.
- For the following key areas, new appendices have been added to our WRMP to respond to either new regulatory expectations or areas of our plan that received a wide range of requests for additional information.
    - Appendix 1C: Southern Water & Portsmouth Water Common Understanding
    - Appendix 1G: HRA (now published separately to the SEA)
    - Appendix 1H: 2022 drought lessons learnt

- Appendix 4B: Non-household demand forecast
- Appendix 4Ca-b: WRSE Population and properties method
- Appendix 4D: Non household demand forecast comparison
- Appendix 5B: Investigating and achieving sustainable abstraction
- Appendix 7D: Option Screening (technical- Regulators only)
- Appendix 7E: Carbon Appendix
- Appendix 7F: Hampshire Water Transfer and Water Recycling Project Consultation Response
- Appendix 10A: How we propose to monitor our Adaptive Plan
- Appendix 10B: Water Efficiency Strategy
- Appendix 10C: Leakage Strategy
- Various WRSE method statement

Appendix A to this SoR contains a regulatory checklist of the updated WRMP[7] requirements and how we have met these.

1.3 Barometer Survey

Wave 4 of 'Water Talk', our consumer panel took place between 13th and 30th January 2023. 434 Portsmouth Water bill payers who are part of the 'Water Talk' panel took part in an online multiple-choice survey. The invite is shown in Figure 5.

It is important to note that the panel is self-selecting, rather than deliberately sampled to be representative[8] of the wider customer base. This means panellists may be more engaged with the water sector and knowledgeable about Portsmouth Water than customers in general. To try to make the data from this survey as representative as possible, it was weighted to match the known demographic profile of Portsmouth Water customers (age and gender).

[7] Version 12 of Water resources planning guideline
[8] Water Talk | Portsmouth Water

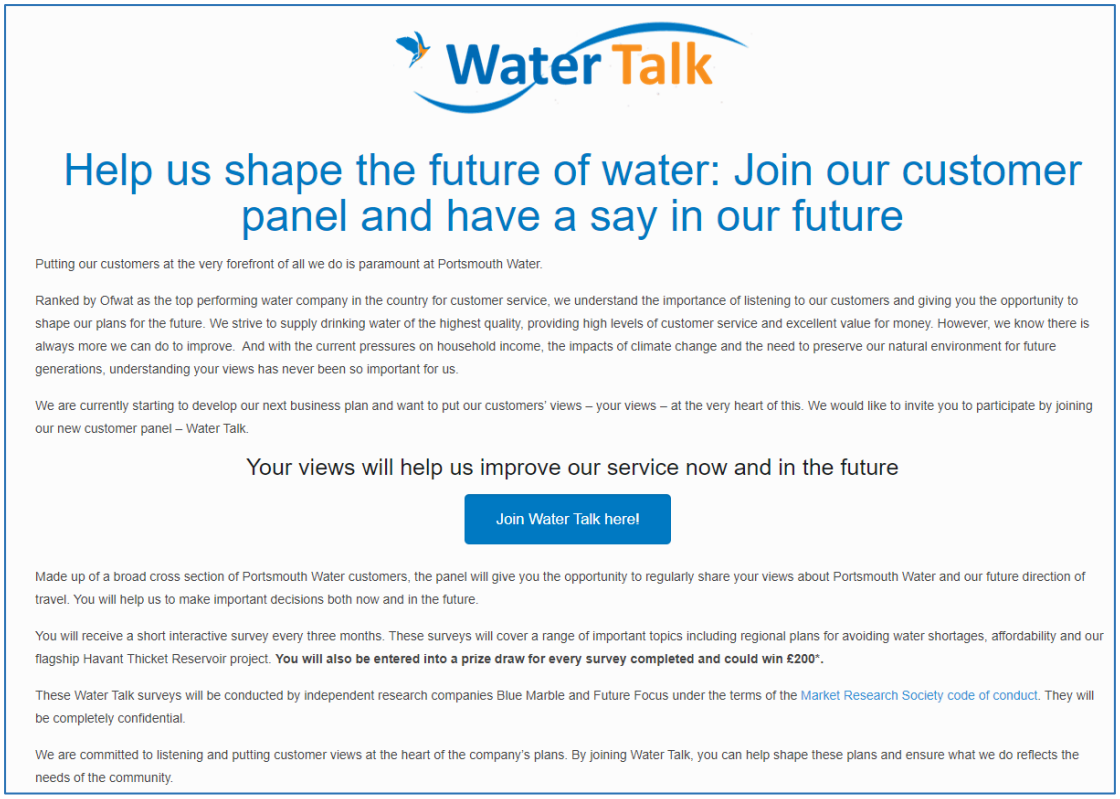


Figure 5: Invitation to Water Talk on the Portsmouth Water website

1.4 Website Responses

A website survey offered the option for respondents to share their thoughts about the draft plan through a series of multiple-choice questions followed by a free text box to write any specific comments.

We received 186 comments through text provided by 79 of the 115 consultation responses received through our website form. However, 36 people who completed the website survey decided not to provide written comments.

Of the 186 comments received through our website form, 181 were from members of the public and 5 were from an NGO, the West Sussex Growers Association.

1.5 Email Responses, written to either Portsmouth Water or Defra about our dWRMP24

We received 159 email and letter representations to our dWRMP24 consultation. Within these emailed responses there were 1,142 individual comments.

This option tended to be taken up by individual respondents who had specific areas of interest, along with our statutory consultees and organisations with vested interests such as regulators, and councils.

The following 8 organisations collectively sent us 291 comments which account for a quarter of all emailed feedback comments received.

- The Environment Agency
- Havant Borough Council
- MOSL (Market Operator of England's Non Household Water Market)
- National Trust

- Natural England
- Ofwat
- The Strategic Panel for the business retail water market in England
- Waterwise

We received the remaining 853 individual comments from individuals, regulators, NGOs, local government organisations and one political party – the Havant Green Party.

Of the 1,142 comments received via email, 617 comments were about the Southern Water option to discharge recycled water into the Havant Thicket Reservoir. We have worked with Southern Water to address these comments.

The remaining 525 comments provide feedback on a wide variety of other aspects of our planning process, and some wider comments about the environment in which we operate, the cost-of-living crisis and comments on the national utilities sector.

Some comments are about very specific aspects of our dWRMP24, others comment on the nation-wide WRMP planning process. We have worked to consider and address each comment appropriately.

1.6 Follow up meetings

Where appropriate, dedicated meetings were held to discuss detailed consultation responses, making sure we understood the respondent's perspective; at the same time we talked through our proposal to address the matters raised.

We held dedicated meetings with the Environment Agency and Ofwat on 3rd April 2023 and 19th April 2023 respectively. During these meetings we reviewed consultation responses received to confirm and define regulatory expectations and talked through proposed approaches to address and resolve the comments made. A range of meetings were held with regulators to address the comments related to environmental assessments via the WRSE environmental subgroup.

2 TECHNICAL AND MODELLING UPDATES TO THE WRMP

A series of technical updates have been included in the revised draft WRMP (rdWRMP24) which include new technical data and modelling outputs, consultation responses, and updated regulatory requirements.

Our rdWRMP24 includes new data that wasn't available when we prepared our dWRMP24 such as the 2021 census population data, our own 2021/22 annual reporting data, and the progress made within our planned AMP7 supply and demand schemes.

We have reviewed our approach to delivering universal metering and leakage activities since we developed our draft plan. Our understanding of options has improved because of in-house trials we have carried out and industry discussions sharing best practice. We also took this opportunity to review the carbon impact assumptions associated with our supply options.

New information has been generated using improved modelling techniques, such as an updated Hampshire Python for Water Resources (Pywr) model which has been developed in partnership with Southern Water. This has allowed us to model the interconnections and linkages of the Havant Thicket Reservoir, as well as proposed future options for the first time across both our supply systems as an interconnected system.

Regional WRSE modelling has been revised and rerun to reflect this updated information. Each of the water companies across the South East has reviewed and resubmitted baseline supply, baseline demand and option data for use in the regional investment modelling undertaken by WRSE. The

revised regional modelling has also been informed through a national reconciliation process with the other regional planning groups, and actions taken arising from consultation responses received to the regional consultation that was carried out in parallel with our own.

2.1 Updated regulatory guidance

Water Resources Planning Guideline (WRPG)

In January 2023 the Environment Agency issued a revised draft Water Resources Plan Guideline (WRPG) for WRMP24 and asked water companies to comment on the proposed changes. We submitted our comments through a shared WRSE regional response and in April 2023 the Environment Agency published a final updated version 12 of the WRPG[9].

The following bullet points provide a high-level summary of the changes to regulatory expectation and the implications of these for our WRMP:

- More ambitious household per capita consumption (PCC) delivery target of 110 l/h/d by 2050 is a government expectation at a water company level under the dry year annual average (DYAA) planning condition.
- Specific interim as well as long-term demand-side targets included in the Government's Environmental Improvement Plan (EIP).
- A challenge to bring forward environmental destination delivery.
- A challenge to deliver resilience to a 1 in 500 drought event before 2039/40.
- A 9% reduction in non-household water demand by 2037/38, in addition to the 15% reduction by 2049/50, from a baseline of 2019/20.
- Request for utilisation rates for options that are selected as part of our preferred plan.
- Additional environmental assessment criteria for 'Significant Effects'.
- Expectation for water companies to produce an appendix reflecting how it has considered its experiences of the unprecedented temperatures and associated peak demands from summer 2022.

As a result of this updated regulatory guidelines, we have made several changes to our WRMP including the addition of a new appendix providing information about the 2022 drought event and making our ambitions to encourage the reduction of household demand for water across our supply area more ambitious by aiming to achieve it in dry years as well as in normal years.

We have revised our potential sustainability reductions and we now meet these reductions sooner and to a greater volume. As a result, our rdWRMP24 has a greater supply demand balance gap to resolve.

The changes to our WRMP resulting from the revised regulatory guidelines are noted by topic in Appendix C of this SoR, and areas where changes have been made to the dWRMP24 are highlighted in the rdWRMP24.

Appendix A provides a table of the updates to regulatory guidance since we produced our dWRMP24 and how we have included these in our rdWRMP24.

Environmental Improvement Plan (EIP)

In January 2023 the Government published its Environmental Improvement Plan[10] (see Figure 6). This is the first revision of the 25 year Environment Plan. One of the ten Goals presented in this Plan was,

[9] Water resources planning guideline - GOV.UK (www.gov.uk)
[10] Environmental Improvement Plan (publishing.service.gov.uk)

'Goal 3: Clean and plentiful water'. The following three targets and commitments found on page 99 of the EIP directly influenced revisions to our WRMP:

- Reduce the use of public water supply in England per head of population by 20% from the 2019 to 2020 baseline reporting figures, by 31 March 2038, with interim targets of 9% by 31 March 2027 and 14% by 31 March 2032, and to reduce leakage by 20% by 31 March 2027 and 30% by 31 March 2032 and 50% by 2050.
- Target a level of resilience to drought so that emergency measures are needed only once in 500-years.
- To support delivery of the EIP the government committed to rolling out a new water efficiency labelling and delivering the ten actions set out in the Roadmap to Water Efficiency in new developments.

Figure 6: The Government's 2023 Environmental Protection Plan introduced targets to reduce household and non-household water use

2.2 Updated Hampshire Python for Water Resources (Pywr) model

The updated Hampshire Python for Water Resources (Pywr) model has been used by both ourselves and Southern Water to reconsider the supply capabilities of our existing and potential systems. This includes the assessment of Southern Water's HWTWRP. Using this model, our deployable output (DO) scenarios, and the associated outage assumptions, have been revised to include updates to the following aspects of our supply forecast planning:

- The impact of Havant Thicket Reservoir.
- The potential impact of climate change.
- Improved flow modelling of the River Itchen.
- The impacts of abstraction licence capping by 2034, and Environmental Destination by 2050.
- Updated Drought Vulnerability Assessment.
- The impact of drought permit actions.

We have summarised the impact of these technical updates into the relevant topics within Appendix C of this report.

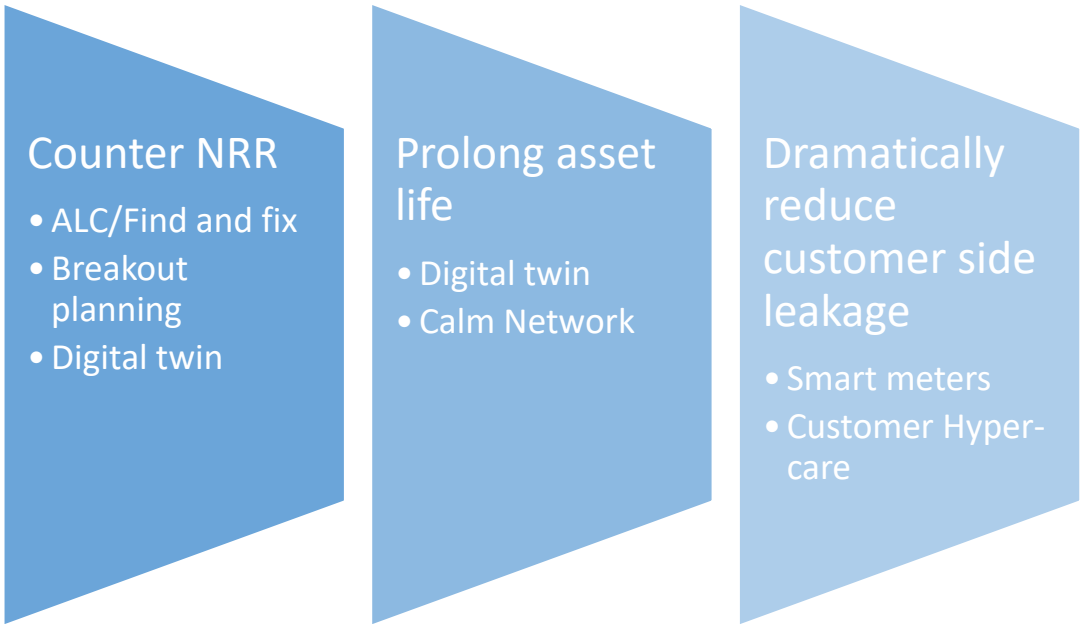
2.3 Updated option to reduce leakage

Our customers and stakeholders have consistently told us that reducing and managing leakage is a high priority for them. After careful consideration and engagement with our customers and communities through our draft WRMP24 consultation we have revised our leakage options to be more ambitious.

We are committing to halving leakage levels by 2040. This is 10 years ahead of our dWRMP24 proposals. It is also 10 years ahead of the wider industry commitment to the National Infrastructure Commission challenge set out in Water UK's Leakage Route Map and referenced in the Environment Agency's 2020 National Framework.

This increased ambition reflects our commitment to meeting the needs of our local communities and the environment. We believe that this will not only deliver environmental value, but also real terms value to our customers who already enjoy the lowest water bills in the UK.

Our strategy for AMP8 and beyond will be to manage and reduce leakage through 3 key approaches; to counter the natural rate of rise of leakage from our own distribution network, to prolong asset life and finally to dramatically reduce customer side leakage[11].



The updated leakage options for the rdWRMP24 are reflected in a revised Section 10.4.1 of our WRMP and detailed in a new Appendix 10C.

2.4 Updated option to encourage water efficiency and deliver universal smart metering

Since our dWRMP24 we have been researching and developing proposals to work collaboratively with our customers to reduce their water use while rolling out a universal smart metering programme. Smart metering will connect customers more intimately with their water use.

[11] For the context of this report, customer side leakage is considered to be supply pipe leakage which forms part of total leakage. This does not include internal plumbing losses which would be considered as consumption (and therefore considered within the Water Efficiency Strategy Appendix (10B).

Considering the updated regulatory Environmental Improvement Plan targets, and in response to changes to water use relating to the pandemic and a series of extreme weather patterns in the UK (particularly the heatwaves of 2020 and 2022), we have adapted our water efficiency programme to include additional initiatives. We have modified or established a series of proactive activities which engage customers in a targeted manner with communications, advice, and practical devices best tailored to customers' needs and circumstances.

Our long-term target included in the rdWRMP24 is to reduce dry year per capita consumption (PCC) below 110 litres per head per day by 2050 for domestic households (HH), with the largest element being delivered by our interventions with customers but with the assumption that the awaited government interventions will deliver the rest.

The rdWRMP24 demand forecast starts from a point of greater consumption than our dWRMP24 but aims to reach a more challenging lower PCC and other demand-side targets (as set out in the revised WRPG and Defra's EIP). This has been a significant challenge.

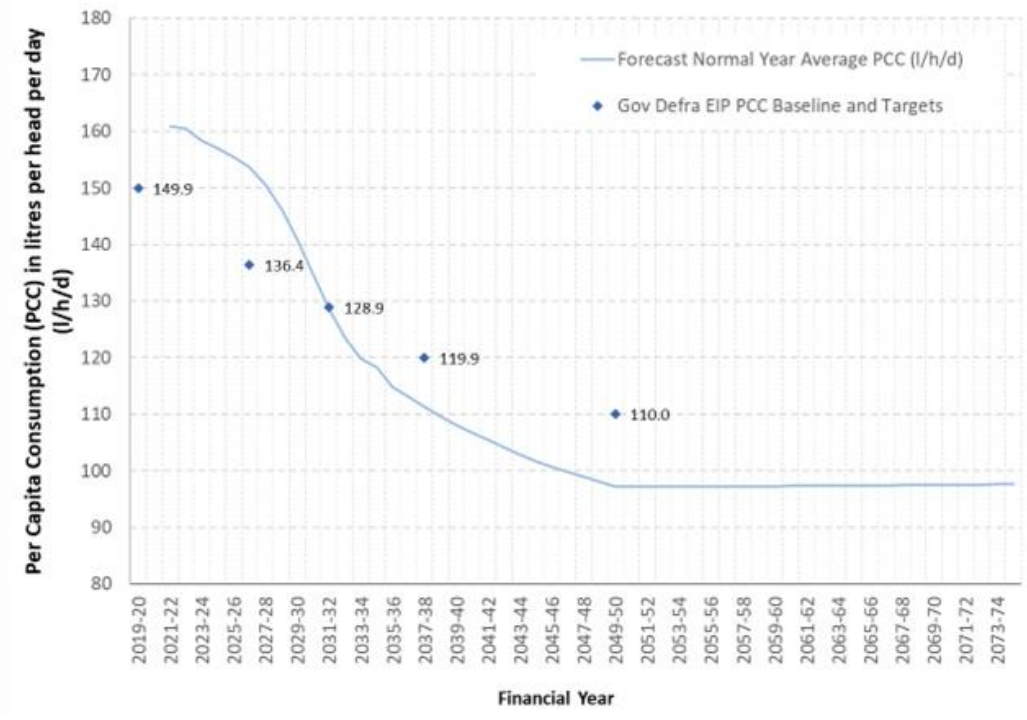
Smart metering is the most crucial element of the WRMP24 plan for reducing PCC. Based on existing evidence and our knowledge of our supply area we propose to deliver universal smart metering over 10 years starting in 2025–26 until 94 per cent of the homes in our area are metered by 2034–35.

Smart metering provides near time visibility of issues and ready access to alerts and information that could help customers address problems earlier than ever before. Early adopters such as Anglian Water have observed that 80% of customers alerted to leakage within their properties fix the leaks within 6 months.

As part of the roll out of smart metering we will introduce an ambitious package of hyper-care support for our customers. Working with customers directly, we will refine our approach over time, but currently we are anticipating our package of support will include:

Health Report	**Doorstep Support**	**Leakage repair**
Nightline report: • Leaky loos • Supply pipe leak • Internal plumbing losses Relative consumption view • Compare with similar homes • Water efficiency advice tailored to usage	Handy hints and tips Water saving devices Leaky loo test kits App navigation Sign up to alerts Sign up to campaigns	Small scale (e.g., dripping tap) self help and advice Significant leaks – find and fix response: • Home investigation (internal plumbing) • Customer supply pipe leak test (external) • Fixing service for economically viable issues located based on a fair cost principle

The proposed glidepaths for household consumption are shown in Figure 7 for the normal and dry year scenarios. Even with our revised water efficiency and universal smart metering programme, the proposed glide path of reducing household consumption in our rdWRMP24 is not steep enough to meet the first two EIP interim target dates for a dry year scenario as our universal metering impact is fully realised in 2035, between the EIP 2032 and 2038 targets. We forecast that we will meet the 2038 target for dry conditions thanks to the combined impacts of universal smart metering and government backed interventions.



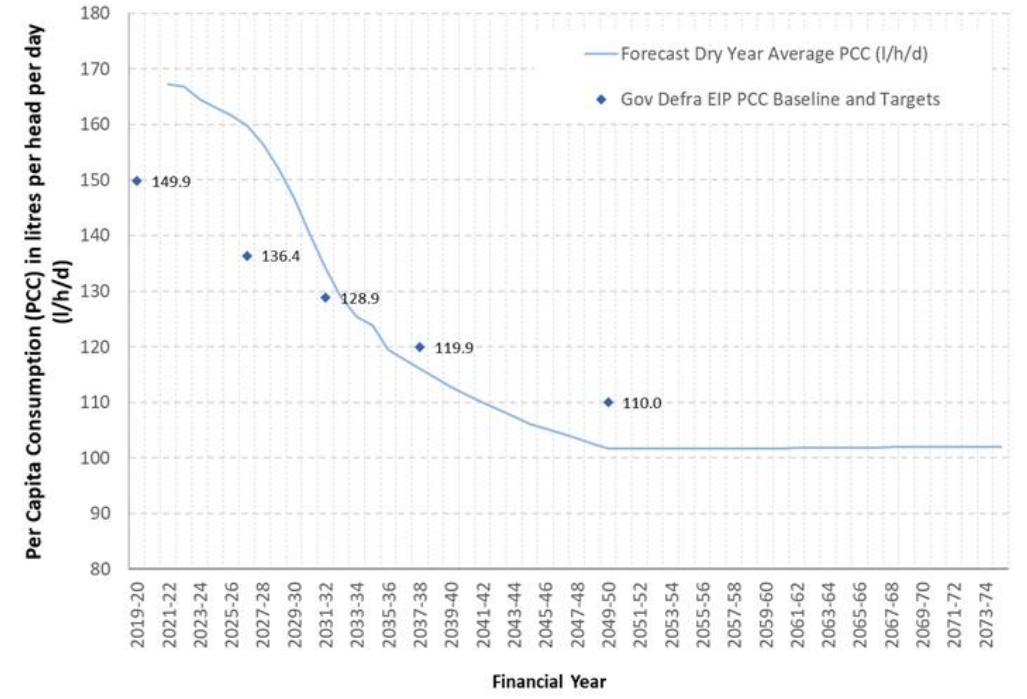


Figure 7: Our household per capita consumption forecast compared with the Government's Environment Improvement Plan Targets for normal and dry conditions

We also plan to reduce non-household (NHH) demand by at least 15% by 2050. Whilst our plans indicate we will meet the Environmental Improvement Plan targets for non-household water use, this component of demand for water is expected to grow over time reflecting growth in agricultural demand (please refer to Appendix 4B for further information on the NHH demand forecast).

The updated water efficiency and metering options for the rdWRMP24 are reflected in a revised Section 10.4.3 of our WRMP and detailed in a new Appendix 10B.

2.5 Updated WRSE modelling

Based on the updates detailed in this statement of response the WRSE investment modelling has been re-run. The following section details the key components of the plan and what the key changes are since the dWRMP24. Overall, there was a greater deficit within our supply demand balance to resolve in the draft plan due to greater sustainability reductions. As a result, there are additional supply options included in the preferred plan, which were not present in the dWRMP24 preferred plan (but they were included in alternative plans). Our revised draft preferred best value plan consists of the components detailed in Table 2 below:

Table 2: Core components of rdWRMP24 best value plan

Option	Selected from	Detail
Demand Reductions (including leakage)	2025	High plus demand basket selected, as per the draft plan but now includes revised and additional options to meet EIP targets for demand reductions. Therefore, there are now a greater suite of options to meet these reductions, such as innovative tariffs which may be implemented post the roll out of smart metering to households and non-households. The 50% leakage reduction is now achieved by 2040, not 2050 based on customer feedback. To optimise the effectiveness of our own water efficiency efforts, our best value plan assumes that the Government will introduce mandatory water labelling from 2025 for white goods and strengthen water regulations standards to improve water efficiency in homes. This assumption has been applied consistently across the WRSE regional planning area and discussed with regulators. The assumed profile of demand savings has changed since the draft plan.
Levels of service for Emergency Drought Orders (1 in 500)	2025	Our levels of service for Emergency Drought Orders (i.e. rota cuts) will remain at 1 in 200 during this period, increasing to 1 in 500 from 2040 onwards. This was reflected as a higher water availability up to 2040 in the draft plan. For the rdWRMP24 the additional water is now included as a levels of service option instead of a deployable output adjustment.
Drought Permits and Orders	2025	When required in extreme events, the continued use of existing drought schemes in accordance with our drought plan (Temporary Use Bans, Non-Essential Use Bans and our supply-side Source S drought permit). Beyond 2040-41 the Source S drought permit is no longer used, although the implementation of Temporary Use Bans and Non-Essential Use Bans is continued. This remains the same as the dWRMP24. However, the benefits of these drought schemes have been updated using our latest models.
Bulk supply exports	2025	Continued provision of existing and planned bulk supplies to Southern Water, including from Havant Thicket Reservoir. This involves providing up to a 15 Ml/d transfer to Southern Water at our eastern border and providing up to a 15 Ml/d transfer to Southern Water at our western boundary. Exports rise to 51 Ml/d capacity transfer by 2031/32 (once Havant Thicket Reservoir becomes online). The actual transfer rates vary throughout the

		planning horizon depending on the amount of water we have available for transfer and the needs of Southern Water. Our future ability to provide exports to Southern Water is limited by planned sustainability reductions at our abstraction sources. Since the dWRMP24 we have now confirmed to Southern Water that it will not be possible to provide a new 9 Ml/d transfer to Southern Water. This is following the completion of Chalk groundwater investigations earlier this year. Since the dWRMP24 we have also agreed with Southern Water to minimise exports in a normal (non-drought year) where possible to minimise abstraction from our chalk aquifers to reduce the risk of Water Framework Directive deterioration. We have undertaken sensitivity testing to assess the risks and we will continue to work with the Environment Agency and Southern Water to manage these.
Bulk supply import	2040	A bulk import of potable water from Southern Water to the west of our supply area. This represents a reversal of flow in the existing and planned bulk supplies to Southern Water. Once Southern Water has more water in Hampshire through the delivery of a supply development detailed within the WRSE draft regional plan and Southern Water's rdWRMP24, we would be able to start receiving supplies from Southern Water to support our own supplies in future. This option was also selected in the dWRMP24 but is now selected around 8 years earlier. Sesro provides water to Thames, Southern and Affinity in the preferred plan during different conditions. We also get an indirect benefit from Sesro in the preferred plan, as we become a net importer of water from Southern, who in turn get their water from a combination of Sesro (via the Thames to Southern transfer) and the HWTWRP.
Network enhancements	2040	A network enhancement to improve the way we can move water resources around our supply area. This option was selected in the dWRMP24 but is now selected around 10 years later. This is partly because the option no longer includes a benefit (Ml/d) in a normal year scenario (a typical year) to conserve water in Havant Thicket Reservoir for drought years.
Treatment and network enhancements	2047 onwards	Further into the planning period there is a need for further interconnectivity and treatment capacity to transfer and treat water across our supply area to utilise the water most effectively from Havant Thicket Reservoir. In the dWRMP24 these options were not selected in the preferred pathway but now feature in the preferred plan due to the need to find additional water resulting from higher sustainability reductions. The plan suggests the scale of this need would require up to 20 Ml/d of additional treatment works capacity at Works A WTW from the mid to late 2040s and a new 10 Ml/d WTW at the location of service Reservoir C from the early 2050s. These options are predicated on the prior construction of the proposed HWTWRP scheme by Southern Water.

Our rdWRMP24 plan is reliant on Southern Water's forecast demand reductions (which would allow them to provide a future bulk supply to us) and the development of their HWTWRP which would allow us to abstract and treat more water from Havant Thicket Reservoir in the future. Please refer to Section 6 for further information on Southern Water's HWTWRP option. Further information on our rdWRMP24 best value plan can be found in Section 10 of our main statutory plan.

3 LEARNING FROM THE 2022 DROUGHT EVENT

It is a statutory requirement that all water companies publish a Drought Plan which sets out the tactical measures to maintain supplies of wholesome water to its customers during the varying degrees of drought events, whilst at the same time continuing to protect the environment. The latest version of our Drought Plan was published in April 2022.

This Drought Plan was put in to practice straight away as we started 2022 with below average groundwater winter recharge, and then dry and hot weather resulting in high customer demand and declining groundwater levels over the summer.

Figure 8 shows the recorded weekly levels at our observation borehole between April and December 2022. As a result of the declining groundwater levels, in June we implemented an 'Active Leakage Recovery Plan', and we convened our Internal Drought Management Group in July which met every two weeks to discuss the emerging drought conditions and how to co-ordinate our response.

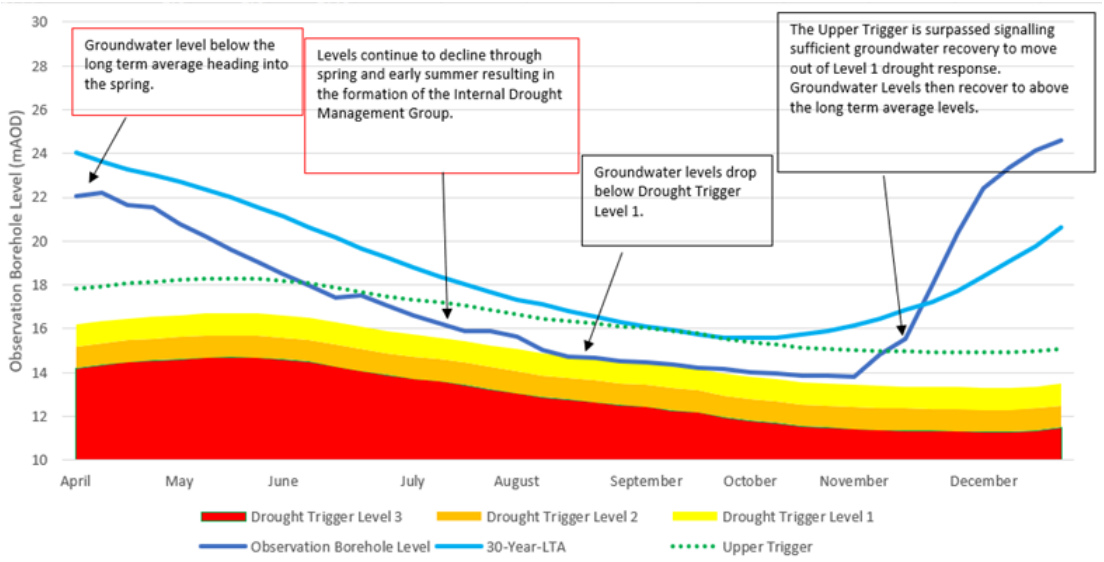


Figure 8: Groundwater levels at our observation borehole in relation to our drought control curves and upper trigger between April to December 2022.

During the July heatwave we experienced extreme high demand, and on the 17th August 2022 we crossed our Level 1 drought trigger as we officially entered a 'developing drought' and formally began taking the steps set out in our Drought Plan.

The actions we took are detailed in Appendix 1H to the rdWRMP24 and included:

1. An enhanced communications campaign to spread customer awareness of the developing drought conditions and provide water efficiency tips, including direct appeals to voluntarily reduce water consumption (see Figure 9 and Figure 10 for examples);
2. An enhanced Active Leakage Control and Pressure Management Plan; and,
3. Increased production activity to ensure the effective operability of our sites

Groundwater levels did not drop sufficiently to cross our Trigger 2 Level which meant that the developing drought did not progress to an official 'drought'. Therefore, we did not need to introduce mandatory use restrictions for customers, nor prepare Drought Permit applications.

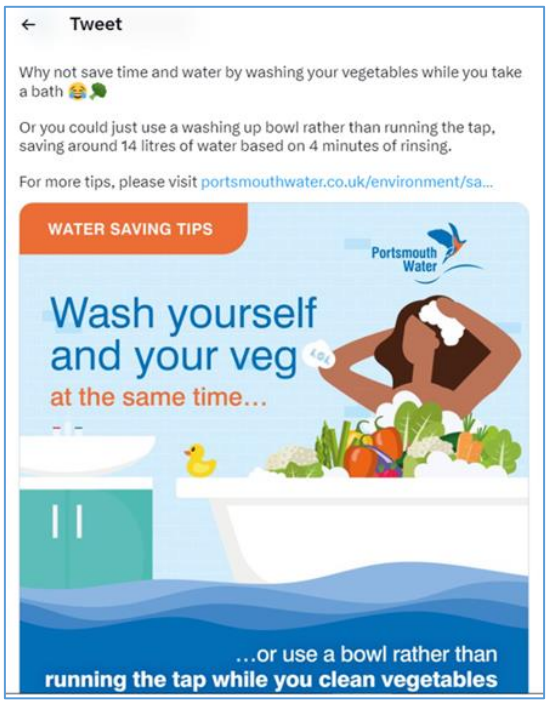


Figure 9: Example of water efficiency messaging on social media

Despite the impacts that the weather had on our leakage levels and PCC, we are proud to say we effectively managed our resources to always maintain supplies to customers within our resource zone with no restrictions. The developing drought in the summer of 2022 has increased our understanding of how we can operate during future events.

The following points are our key lessons learnt, and how we can use the experience for future planning:

- Early modelling of various rainfall scenarios is essential for pre-emptive work to mitigate the impacts of a developing drought;
- Our enhanced and locally targeted communications plan was effective, but can and will be improved (both internally and externally) with the support of our new Communications and Marketing Manager and team;
- We would have benefitted from real-time PCC data so that we could have more effectively focussed our efforts and more accurately understood the impacts of our actions. We aim to improve this with the roll out of our smart metering programme, and the support of our new Data and Insights Business Manager and team;
- Our Active Leakage Management plan was effective but would have been more so with additional resources; this issue has since been rectified;
- We maintained supplies throughout the summer without the use of restrictions, despite record levels of demand.

Our planned levels of service and use of drought options are to remain consistent with the dWRMP24 and Drought Plan 2022. Having not been required to implement them, we will continue to use the demand savings assumptions associated with Temporary Use Bans and Non-Essential Use Bans.

Although five of our abstraction boreholes delivered record-breaking yields over the summer, we do not intend to increase the stated deployable outputs from these sites in the long term as we are committed to reducing groundwater abstractions to protect and enhance the environment.

Appendix 1H to the rdWRMP24 sets out the details of how we managed the dry summer in accordance with our drought plan, the lessons we learned, and how we have incorporated this learning unto our rdWRMP24.

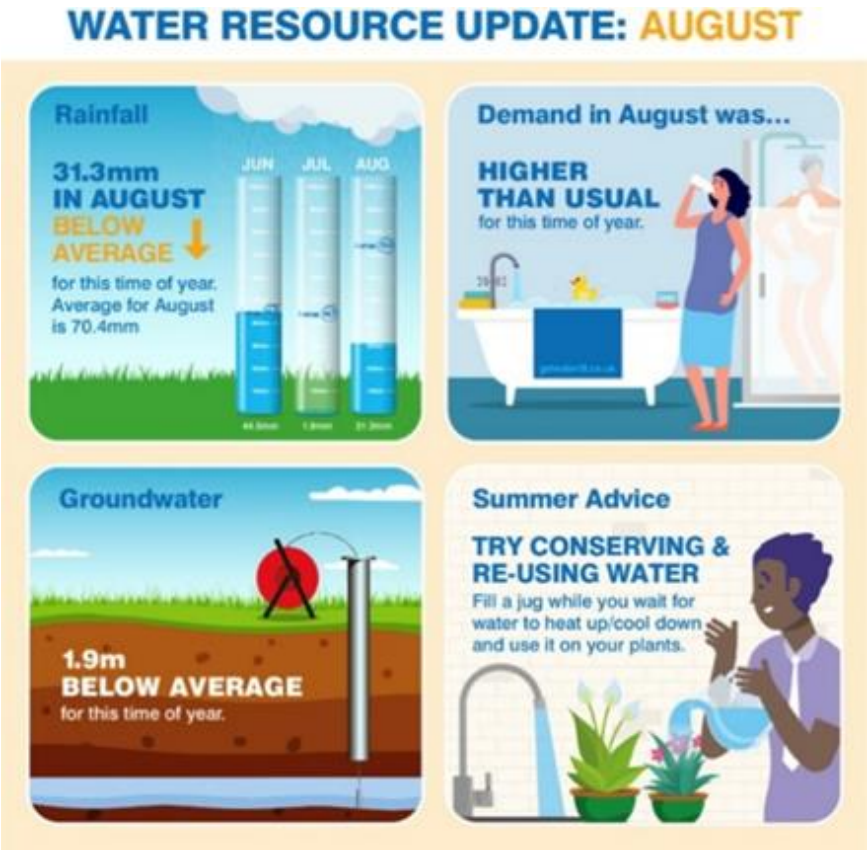


Figure 10: Water Resource dashboard shared on social media platforms

4 OVERALL IMPRESSIONS OF THE DWRMP, AND WHICH AREAS OF THE WRMP RECEIVED MOST FEEDBACK

Our Barometer survey shows there is strong support for all the key elements of the plan.

Of the 434 customer panellists who took part in our Barometer Survey, 89% expressed support for our plan. This is shown in Figure 11. The highest level of support was from customers in the 16-44 age range (95%), followed by 65+ (87%).

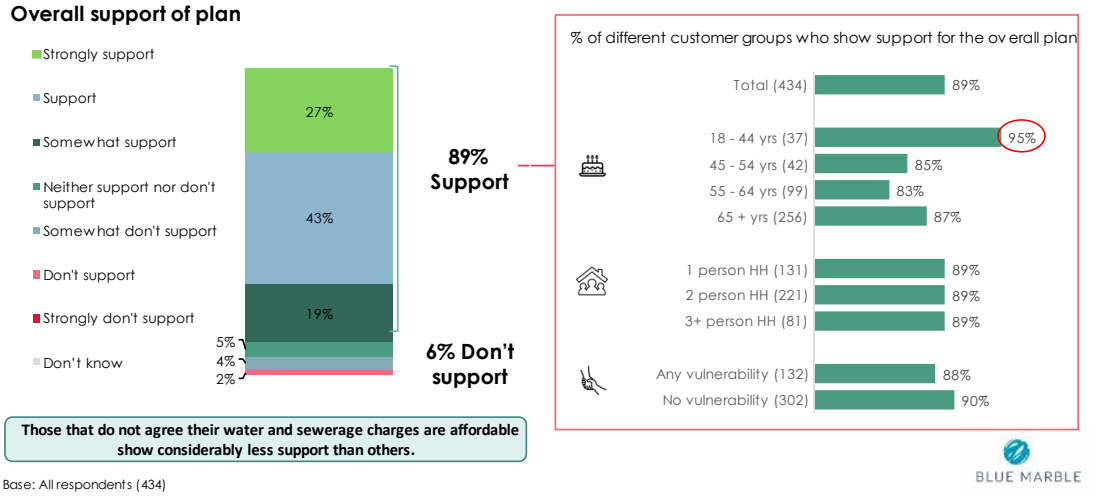


Figure 11: Overall support for the dWRMP24 from the Barometer Survey (Q9a. Overall, how much do you support this plan?)

As shown in Figure 12, of the 386 Barometer Survey respondents who supported the plan, their top reasons were that it was a sensible/logical plan and that the cost increase is reasonable.

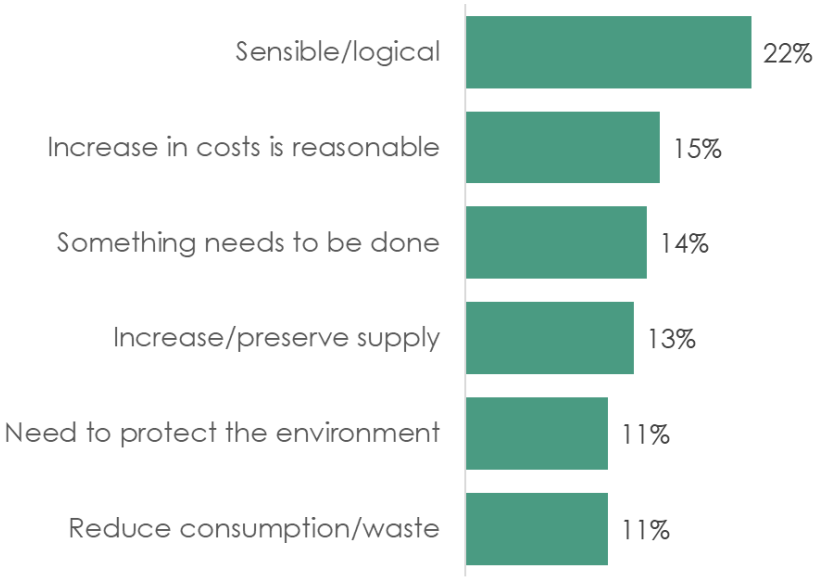


Figure 12: Top five reasons to support the plan from the Barometer Survey

Only 28 respondents did not support the plan, so the low base size of the sample means that the reasons provided need to be treated with caution. Of these 28, the two most common reasons given for this were that they felt the cost increase should not be passed onto customers and that they do not support smart meters. Appendix B.10 provides further outputs of the Barometer Survey.

We received 1,292 comments about our dWRMP24. Comments were wide-ranging. Every section of our dWRMP24 received at least three pieces of feedback.

Over half the comments we received were about supply options, and these were dominated by feedback about the HWTWRP. Demand options, and then our Environmental assessments, and supply forecast were the next most commented on areas of our plan. Collectively, these four areas of our plan attracted over eighty percent of the feedback comments we received through the public consultation of our dWRMP24. The breakdown of feedback per area of the plan is summarised in Figure 13.

We are pleased with the level of engagement that was achieved through the public consultation on our dWRMP24 and welcome the thoughts and opinions that our customers, stakeholders, and regulators have chosen to share with us.

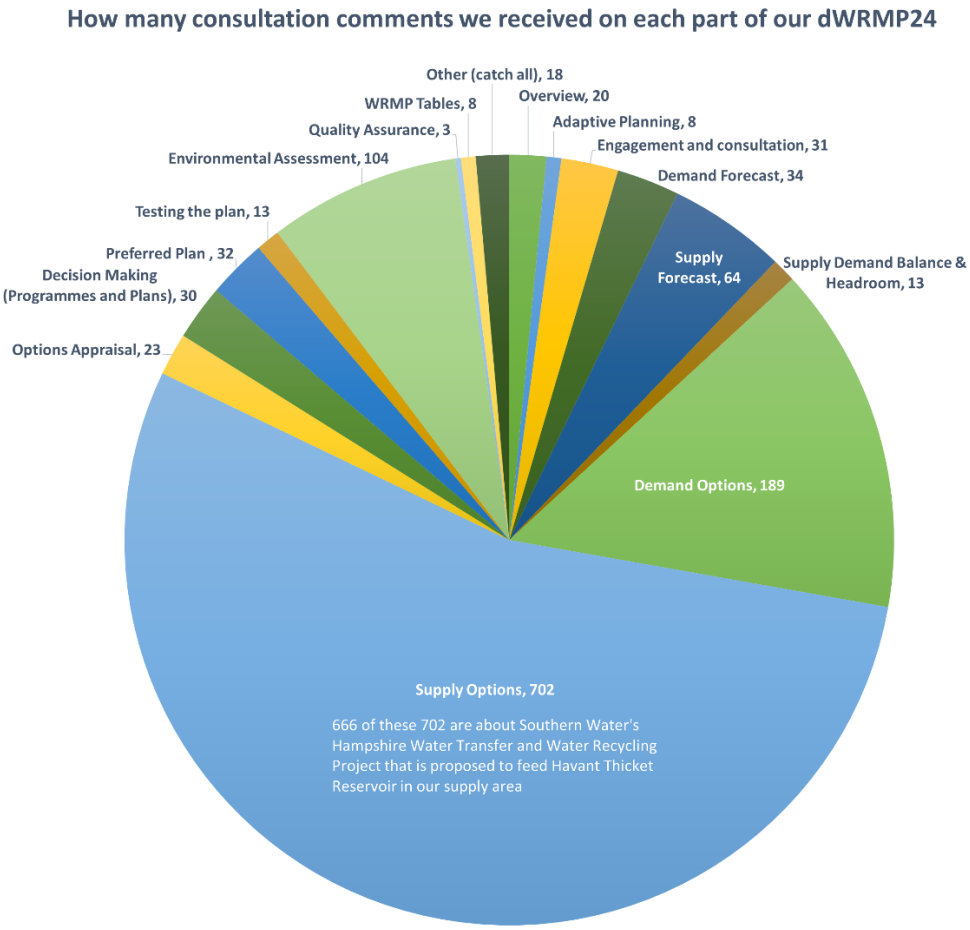


Figure 13: Breakdown of the topics that the public consultation feedback comments are about

Figure 14 presents the topics that different groups of respondents have commented on. This figure shows groups of respondents with over 10 responses.

Table 3 shows the total comments by topic as well as the breakdown of which respondent groups commented on which topics. Members of the public and local government predominately commented on supply options and in particular the HWTWRP, whereas regulator feedback covered a broader range of topics, and the most commented area of our Plan from water retailers and NGOs were the options to manage demand for water.

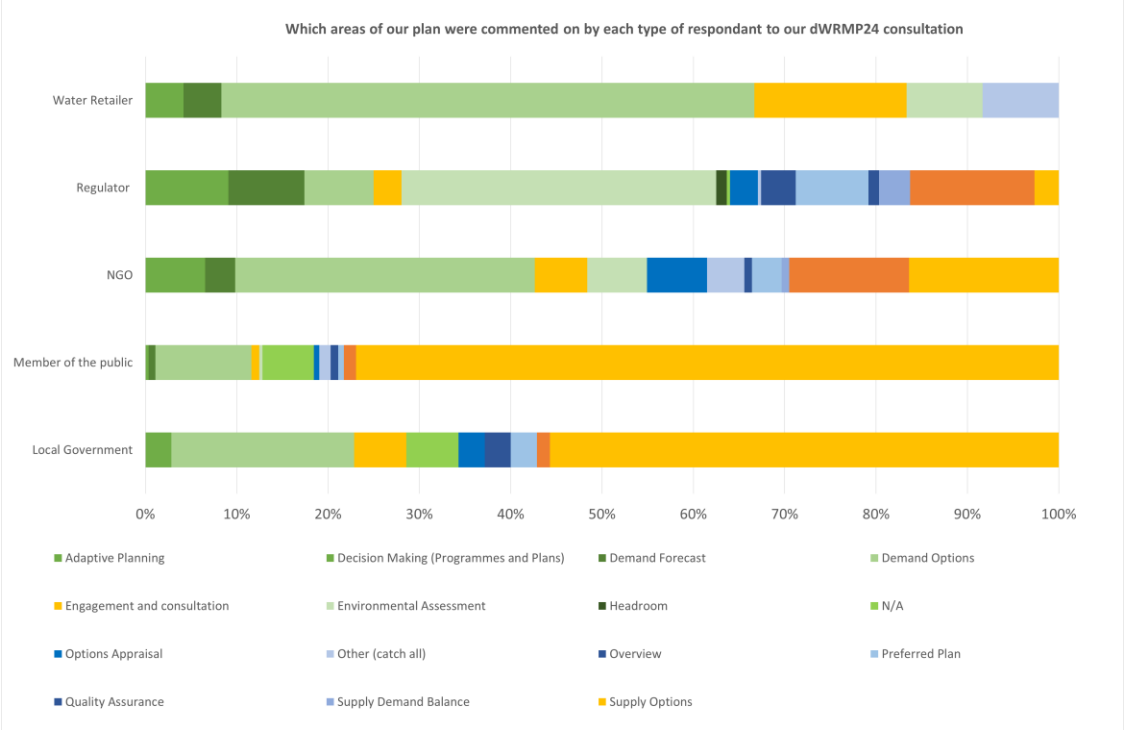


Figure 14: Breakdown of topics addressed by respondents in feedback to the consultation by respondent grouping

Appendix B to this Statement of Response presents key themes of feedback we received, grouped by the main topic areas covered in our plan. Appendices C and D then answers each of the comments, as well as details of our response and if there has been a change to our plan as a result.

For each of the sections of this appendix, the key themes raised in consultation responses is summarised along with corresponding technical and regulatory updates. We summarise our response to the consultation received, and then go on to highlight how the representations have influenced the rdWRMP24.

Table 3: A table showing which areas of our dWRMP24 were commented on by each of the groups of respondents

Section and area of plan commented on	Groups of people who responded to our dWRMP24 as individuals and as representatives of organisations.									
	A digital data and technology company	Local Government	Market operator for the non-household retail market in England	Member of the public	NGO	Political Party	Regulator	Water Retailer	Grand Total	Percent of Responses
Overview	0	2	0	7	1	0	10	0	20	1.5%
Adaptive Planning	0	0	0	0	1	0	7	0	8	0.6%
Engagement and consultation	0	4	1	7	7	0	8	4	31	2.4%
Demand Forecast	0	0	1	6	4	0	22	1	34	2.6%
Supply Forecast	0	1	0	11	16	0	36	0	64	5.0%
Supply Demand Balance	0	0	0	0	1	0	9	0	10	0.8%
Headroom	0	0	0	0	0	0	3	0	3	0.2%
Options Appraisal	0	2	0	5	8	0	8	0	23	1.8%
Supply Options	0	39	0	630	20	6	7	0	702	54.3%
Demand Options	1	14	14	86	40	0	20	14	189	14.6%
Decision Making (Programmes and Plans)	0	2	0	3	7	0	17	1	30	2.3%
Environmental Assessment	0	0	0	3	8	0	91	2	104	8.0%
Testing the plan	0	0	0	0	0	0	13	0	13	1.0%
Preferred Plan	0	2	0	5	4	0	21	0	32	2.5%
Quality Assurance	0	0	0	0	0	0	3	0	3	0.2%
Other (catch all)	0	0	0	10	5	0	1	2	18	1.4%
WRMP Tables	0	0	0	0	0	0	8	0	8	0.6%
Grand Total	1	66	16	773	122	6	284	24	1292	100%

5 RESPONSE TO ENVIRONMENT AGENCY'S RECOMMENDATION -COMPLIANCE WITH WRMP DIRECTIONS

The Environment Agency's representation on our dWRMP24 stated that they did not consider that our dWRMP24 complied with two aspects within the Water Resources Management Plan (England) Direction 2022.

We have further developed these elements of our planning and are including additional information about leakage and carbon accounting in our rdWRMP24 to resolve the issues raised.

Carbon

Direction	Description 3. (1) In accordance with section 37A(3)(d), a water undertaker must include in its water resources management plan a description of the following matters-
3 (d)	In respect of greenhouse gas emissions – (i) the emissions of greenhouse gases which are likely to arise as a result of each measure which it has identified in accordance with section37A(3)(b), unless that information has been reported and published elsewhere and the water 5 of 7 resources management plan states where that information is available; (ii) how those greenhouse gas emissions will contribute individually and collectively to its greenhouse gas emissions overall; (iii) any steps it intends to take to reduce those greenhouse gas emissions; (iv) how these steps will support the delivery of any net zero greenhouse gas emissions commitment made by it; and (v) how these steps will support delivery of the UK government's net zero greenhouse gas emissions targets and commitments.

We have produced Appendix 7E for the rdWRMP24 to address the Environment Agency's concerns about our approach for assessing carbon linked to WRMP24.

Appendix 7E describes how we currently measure and monitor our current carbon use and how we have assessed the carbon impact of the supply and demand options we have considered for our WRMP. This includes details of work we have done to date, and that which is planned to reduce these emissions. The appendix also details our plans for net zero. By 2050 we aim to have Net Zero location based Operational Carbon and Embedded carbon. This aligns with Government targets and our own 25-year vision.

The information contained in Appendix 7E is reflected and included in the following Sections of the rdWRMP24:

- Section 1.7 Challenges and Opportunities
- Section 7.4.1 Environmental Assessment: Carbon and Climate Change
- Section 8.3 Decision-making Approach
- Section 10.3 Our revised draft Preferred Plan

Leakage

Direction	Description 3. (1) In accordance with section 37A(3)(d), a water undertaker must include in its water resources management plan a description of the following matters-
3 (k)	its intended programme to manage and reduce leakage, including anticipated leakage levels and how those levels have been determined

As described earlier in Section 2.3 of this Statement of Response, we have produced a new supporting Leakage Strategy Appendix for our rdWRMP24 to address this Direction and also the technical updates and public consultation comments received since our dWRMP24 was published.

This Appendix 10C provides additional information about the calculation of baseline leakage as well as options to manage and reduce leakage going forward. The updated leakage options for the rdWRMP24 are also reflected in a revised Section 10.4.1 of our WRMP.

6 HAMPSHIRE WATER TRANSFER AND WATER RECYCLING PROPOSAL

Of the 1,292 comments we received in response to the public consultation on our dWRMP24, 666 of these (52%) are about an option in Southern Water's dWRMP24, the Hampshire Water Transfer and Water Recycling Project (HWTWRP). This includes direct (i.e. concerns about drinking water quality) and indirect comments (i.e. can Southern Water reduce leakage further instead).

This scheme would recycle water from Southern Water's Budds Farm wastewater treatment works into the Havant Thicket Reservoir where it would mix with water from Source B. This blended water would then feed a transfer pipeline to a Southern Water treatment works and our own water treatment works.

If Southern Water secures approval for the HWTWRP, then during most of the period up to around 2040 the water supply to Portsmouth Water customers would come directly from Source B Spring Source via Works A and therefore remain unchanged from the current situation. Portsmouth Water recognises that many customers relish the current spring water and Portsmouth Water customers would only receive blended reservoir water in a drought or emergency scenario with the implementation of this option. Even within this scenario the taste, smell and quality of this source can be controlled through treatment.

Further work completed by Portsmouth Water since dWRMP24 has shown that Portsmouth Water would need more water from the Havant Thicket Reservoir than was originally envisaged. The preferred plan indicates that from 2046-47 Portsmouth Water requires additional water from Havant Thicket Reservoir for its own use, above and beyond that envisaged in the draft plan. The proposed HWTWRP can provide this extra water for Portsmouth Water customers. To support this extra demand the plan suggests the reservoir could need additional recycled water to be put in the reservoir, meaning the water taken would be blended reservoir water (i.e. with contributions from rainfall, recycled water and spring water). Portsmouth Water will seek to reduce the dependency on recycled water in the next water resources management plan (WRMP29) via the consideration of new options, although the need for recycled water in a drought is expected to remain.

We hear the concerns of our customers and stakeholders about the water recycling scheme option. We take these concerns very seriously and highly value the trust of our customers and stakeholders.

Portsmouth Water has committed initial support for this Southern Water option; however, Portsmouth Water will not continue to give its support to the scheme if it has any doubt over the safety of this water, or the impact it might have on the environment and leisure facilities at Havant Thicket Reservoir. We will also consider the views of our customers and local stakeholders in the

review of our support of the option. Portsmouth Water will also commission a third-party independent review of the option as part of its due diligence. .

Southern Water is currently carrying out detailed studies and investigations as it explores this scheme further. Portsmouth Water is keeping an open mind as it awaits the outcome of these and is encouraging its customers to do the same. Water is an expensive commodity to move around and historically water companies have tried to use water available locally as far as possible. But the water resources position in the UK is being challenged by climate change and the growth in population and the water companies have to look further and further afield to satisfy their customers' needs, at the same time taking care of the natural environment. This is especially true in the water stressed South East, the driest part of the UK receiving only 50% of the average national rainfall levels.

Recycled water could only be provided to Portsmouth Water and Southern Water customers if it meets the very strict legal standards set out by the Drinking Water Inspectorate, an independent regulator whose role is to make sure water companies deliver drinking water to customer's taps that meets very high-quality standards set out in UK legislation under guidance from the World Health Organisation; this includes the key areas of bacteriological, chemical and viral quality.

Portsmouth Water understands that some customers have concerns about drinking recycled water. As the operator of the reservoir with total control of the water entering and exiting it, we would have to be totally satisfied about the safety of the proposals and subsequent operational arrangements before we would allow it to be used as a source of drinking water. Portsmouth Water will be speaking directly to our customers about recycled water, giving them the facts, and offering them opportunities to ask questions.

In response to the comments received from customers and stakeholders, as part of this due diligence process, we are currently planning the following:

- A dedicated public group who will review scheme progress. We will invite representatives of the community groups who have voiced strong opinions about the scheme as well as regulators, water quality specialists, environmentalists and public health specialists.

- Regular public meetings which will present research, plans and proposals and invite comments and suggestions.

- We will have scheme proposals and method statements scrutinised and assured by water quality specialists, environmentalists, and public health specialists. The reports produced will be shared with the dedicated public scrutiny group.

- As we are to benefit from the water resources provided by this scheme, we will commission an optioneering study looking at the feasibility of alternative options to inform our WRMP29 and to provide an alternative option if the requirements of this due diligence are not met.

- We will support a research piece and literature review looking at the public acceptability, water quality and environmental impact of water recycling schemes already operational globally. The results will be presented with the dedicated public scrutiny group and at a public meeting.

Since the draft WRMP24 we have worked with Southern Water on a joint appendix which answers the consultation questions regarding the scheme (please refer to Appendix 7F). This appendix provides further information on the option selection, the treatment process, how drinking water standards will be maintained and the future assessments and consultations which will be undertaken as the option is developed.

In addition to the joint appendix, Section 7.8 and 10 of our Main Statutory Plan provides further information on the Southern Water's HWTWRP option and how the option interacts with our supply network and Havant Thicket Reservoir.

7 NEXT STEPS

This Statement of Response and rdWRMP24 has been submitted to Government and we will now wait for indications as to whether we can finalise our plans, whether further changes need to be made, or whether a hearing or inquiry into the WRMP is required before finalisation.

The Secretary of State will send this statement of response and revised draft plan to the Environment Agency and Ofwat for review.

We expect to hear from the Government before the end of 2023.

Alongside this work we are developing our Business Plan for the period 2025-30.

APPENDIX A – GUIDANCE CHECK LIST

Appendix A details the updated Water Resources Planning guidance which was issued in March 2023[12]. The check list details how we have completed to the updated guidance since the dWRMP24.

Guidance Requirement	Compliance Check
You must share your draft plan with all consultees listed in the 2007 regulations	On the 15 November we sent an email providing information about our dWRMP24 consultation and a link to the dWRMP24 documents on our website to all organisations involved in pre-consultation discussions, or who had been involved in earlier discussions about our plans for Havant Thicket reservoir. This included nearly 400 stakeholders including MPs, local authorities, developers, Environment Agency, Forestry Commission etc. This wide group of people and organisations included and went beyond the statutory consultees listed in the 2007 regulations.
You should also share your draft plan with all other organisations involved in the pre-consultation discussions.	
offering to explain the plan to established groups, known interested parties or companies within your area	We delivered in person presentations of the dWRMP24. On the 30 November 2022 we presented to Havant Thicket Reservoir stakeholders about our dWRMP24 We also invited all stakeholders on our email list at least twice to attend an online webinar.
including an engaging summary of your plan which clearly sets out your proposals to your customers in plain language	To ensure our plan was accessible to a wide range of stakeholders and customers, we produced a non-technical stakeholder summary, alongside the plan and more technical supporting appendices, and made this available to be viewed and downloaded on our website. We produced two versions of our non-technical summary of our dWRMP24 – one was viewable online, and the other was printable. Water Resources Planning | Portsmouth Water We also presented our dWRMP24 in a webinar and in face-to face presentations.
holding virtual events, road shows or exhibitions	Table 1 of this Statement of Response provides a timeline of our dWRMP24 consultation activities, including virtual and in person events.
conducting questionnaires to gain views on your proposals, using phone or in person surveys or other recognised survey techniques	We invited people to feedback on our dWRMP24 through a variety of routes. This was with the aim of reaching out to and engaging as many people as possible. Further information is covered in Section 1 of this statement of response.

[12] Version 12 of Water resources planning guideline

using social media to highlight the consultation	We highlighted the start of our dWRMP24 public consultation with a LinkedIn post which received 2,122 views, 89 clicks and 50 reactions. Our social media campaign to promote the dWRMP24 public consultation to customers started on 28th December 2022. Our Facebook post received 931 views, and reached 769 people, 127 of whom engaged with it. Our workplace post to staff received 149 views and 4 reactions.
innovative web-based engagement	As well as welcoming written consultation responses, to encourage wider engagement we encouraged people to use a survey hosted on our website. We also promoted the consultation on social media. A website survey offered the option for respondents to share their thoughts about the draft plan through a series of multiple-choice questions followed by a free text box to write any specific comments. The structured multiple-choice questions in our website surveys provide overall headline data about the level of support for the plan as a whole and the specific areas we asked about. We received 186 comments through text provided by 79 of the 115 consultation responses received through our website form. 36 people who completed the website survey decided not to provide written comments.
joint communications with other companies	Activities were carried out at regional level as part of the Water Resources in the South East (WRSE) group who ran a consultation in parallel with our own, consulting on the draft best value regional plan for water resources across the South East region Although these activities primarily focused on the draft regional plan, the dWRMP24 Consultations of each of the six companies that work together as a region, were signposted, including our own. One example of this, was on 16th November 2022 a WRSE launch event was held for the draft regional plan at the Houses of Parliament in London. This was attended by Bob Taylor, Chief Executive Officer Portsmouth Water. More than 60 stakeholders attended including MPs, regulators, environmental groups, local authorities, trade associations for large water users and other water resources regions. South East MPs and peers from the House of Lords

	also attended with Chairs of parliamentary select committees and All Party Parliamentary Groups (APPGs).
Where you are proposing joint schemes, you should ensure that your messages and narrative are consistent with the other proposers and consider holding joint stakeholder events.	Several our consultation activities were undertaken in partnership with Southern Water due to the high interconnectivity of customers and collaboration between the Water Resource Management Plans of both water companies. On the 7th December a webinar for stakeholders was jointly hosted between ourselves and Southern Water 7 Dec 2022 Portsmouth Water / Southern Water dWRMPs consultation webinar on Vimeo Over an hour and a half, presentations provided an overview of the regional water resources context as well as our Portsmouth Water dWRMP24 proposals and the Southern Water dWRMP24 proposals with Q&A sessions after each presentation. There were 67 attendees at the webinar, in addition to the presenters and administrators. These came from a range of organisations including: • Council officer and councillors from parish councils, Winchester, Chichester, Horsham, Fareham, Arun, West Sussex, Isle of Wight, Test Valley and Havant councils • MP representatives • Environment Agency and Natural England • CCW • Arun and Rother Rivers Trust (AART) • Businesses
You have 26 weeks (unless specified differently in any new direction) to consult on your draft plan and produce a statement of response. It is your responsibility to decide how long you will consult for. Previously, the consultation period has been around 12 weeks. However, this will depend on your situation. You should allow enough time: for consultees to make comments on the plan – allow more time for more complex draft plans to produce a statement of response based on the comments you receive You must state in your consultation that all responses should be sent to the Secretary of	On 15th November 2022 we published our draft Water Resource Management Plan 2024 (dWRMP24) for consultation. The public consultation ran for a 12-week period and closed on 20th February 2023. We invited representations on the dWRMP24 to be sent to the Secretary of State. This Statement of Response (SoR) describes the responses we received during the public consultation of our dWRMP24 and associated Environmental Assessment reports.

State if you are in England, or to the Welsh Ministers if you are in Wales, using the following email or postal addresses.	
Regulators expect to operate a query process during the draft plan consultation stage. This will be similar to Ofwat's approach during its price review process. If you receive a query from a statutory consultee you should respond with supporting evidence where required within 3 working days of the request. A longer response time can be requested if you can justify this. Depending on commercial and security considerations, the query responses should be published on your website in support of the draft plan. You should also include the queries and responses as part of your statement of response.	We responded directly to regulatory queries throughout the consultation period. Where appropriate, dedicated meetings were held to discuss detailed consultation responses and ensure we understood the respondent's perspective and talked through our proposal to address this. We held dedicated meetings with the Environment Agency and Ofwat on 3rd April 2023 and 19th April 2023 respectively. During these meeting we reviewed consultation responses received to confirm and define regulatory expectations and talked through proposed approaches to address and resolve the comments made. We have included Regulatory queries and our responses to these as part of this statement of response.
You must publish a statement of response after completing the public consultation. You must publish this within 26 weeks of publishing your draft plan for consultation (unless specified differently in any new ministerial direction). Your statement of response must: • show that you have considered the representations you have received • set out the changes you have made to the draft plan as a result of the representations and your reasons for making them – either set as amended text or in a revised draft plan • say if you have not made changes as a result of representations and explain why • describe anything that has changed during the consultation period, for	Our Statement of Response is a record of how we engaged our customers, stakeholders, and regulators during the consultation period and of how we have considered and responded to the responses we received. In some cases, we have responded to comments within this document, but in other cases we signpost where we have made changes to our revised draft WRMP24 to address the comments. A series of technical updates have been included in the revised draft WRMP (rdWRMP24) to include new technical data and modelling outputs, respond to consultation responses, and accommodate updated regulatory requirements. Our rdWRMP24 includes new data that wasn't available when we prepared our dWRMP24 such as the 2021 census population data, our own 2021/22 annual reporting data, and the progress made by our planned AMP7 supply and demand schemes.

example, the conclusion of any projects you had undertaken or external influences such as new sustainability changes	
You should decide whether the statement of response alone allows your customers and stakeholders to understand clearly and easily the changes you have made. If it does not, you must publish a revised draft plan alongside it.	This Statement of Response is to be considered and published alongside a revised draft WRMP24 (rdWRMP24). Content in the rdWRMP24 that has been updated since the dWRMP24 is shown highlighted in yellow.
You will need to assess whether any changes in the WRMP will require changes to other plans, such as your drought plan, regional plan or business s plan.	**Our current Drought Plan** was published in April 2022. It was put in to practice straight away as we started 2022 with below average groundwater winter recharge, and then dry and hot weather saw high customer demand and declining groundwater levels over the summer. Our planned levels of service and use of drought options are to remain consistent with the dWRMP24 and Drought Plan 2022. Having not been required to implement them, we will continue to use the demand savings assumptions associated with Temporary Use Bans and Non-Essential Use Bans. Appendix 1H to the rdWRMP24 sets out the details of how we managed the dry summer in accordance with our drought plan, the lessons we learned, and how we have incorporated this learning unto our rdWRMP24. **Regional WRSE modelling** has been revised and rerun to reflect the same updated information as our rdWRMP24. Each of the water companies across the South East has reviewed and resubmitted baseline supply, baseline demand and option data for use in the regional investment modelling undertaken by WRSE. **Our Business Plan for the period 2025-30** has been developed alongside our WRMP with a shared governance process to ensure alignment and consistency.
You must publish the statement of response in line with the Water Industry Act 1991, the 2007 regulations and the directions.	This Statement of Response is to be considered and published alongside a revised draft WRMP24 (rdWRMP24). Content in the rdWRMP24 that has been updated since the dWRMP24 is shown highlighted in yellow.
You must inform everyone who responded to your draft plan that you have published it.	Upon publication of the rdWRMP24 we will issue an email to all written consultations we received.

Once completed, you must send your statement of response to the Secretary of State or the Welsh Ministers. If you have a revised draft WRMP or have been requested to provide further information, you should provide it alongside your statement of response. You must notify the Secretary of State or the Welsh Ministers of any further information that may be commercially confidential or which has been, or you consider should be, removed for reasons of national security.	We will send our completed statement of response to the Secretary of State.
The Secretary of State will send your statement of response and revised draft plan to the Environment Agency and Ofwat for review. The Welsh Ministers will send it to Natural Resources Wales and Ofwat for review.	Noted.

APPENDIX B –COMMENTS BY TOPIC

This appendix contains details of the technical updates and the key themes of the consultation comments received for each of the sections of our WRMP. The consultation comments in relation to these sections of the plan are provided in Appendix C. As detailed in Section 1 of this document, consultation comments can sometimes cover multiple themes or area and therefore the core theme was selected in grouping the replies.

B.1 COMMENTS ABOUT SECTION 1 OVERVIEW

Summary of representations

There were 20 consultation comments were logged under 'Section 1: Overview' of our dWRMP24. The key themes include the following:

- Support for the current Level of Service and the use of restrictions during drought. Several comments go as far as saying they don't think drought restrictions should be used less frequently as this would be a disincentive to people using water wisely during periods of dry weather.
- Representations asked for more information about the methodology and calculation of the Level of Service, and requesting assurance that what we are proposing informs an efficient Level of Service glide path as we increase the resilience of our supply system to a 1 in 500 year drought severity.
- The Forestry Commission requested further information about managing nitrate levels in groundwater, and one comment was received from a member of the public asking us to reduce the hardness of the water we supply.
- Representations acknowledge and are supportive of our 'Problem Characterisation'.
- Two comments were about our 50 year planning horizon. One welcomes it, the other questions how realistic it is to plan for 50 years in the future.
- The Environment Agency requested that we update our Drought Vulnerability Assessment.
- The Environment Agency also requested that we update our WRZ Integrity Report.

B.2 COMMENTS ABOUT SECTION 2 ADAPTIVE PLANNING

Summary of representations

Eight consultation comments were logged under 'Section 2: Adaptive Planning' of our dWRMP24. The key themes include the following:

- Representations asked how we will monitor progress to inform decisions at each of the adaptive planning trigger points during the planning period.
- Within the representations we have included the Ofwat queries which asked for clarifications on the draft plan in terms of the Common reference scenario and sustainability reductions considered within the adaptive plan.

B.3 COMMENTS ABOUT SECTION 3 ENGAGEMENT AND CONSULTATION

Summary of representations

There were 31 consultation comments were logged under 'Section 3: Engagement and Consultation' of our dWRMP24. The key themes include the following:

- Representations questioned the clarity of language used and the accessibility of the way the dWRMP24 was communicated.
- Comments supported continued collaboration. Havant Borough Council and the National Farmers Union emphasised their support to continue working in collaboration with us.

- Ofwat asked how we intend to continue to work with other water companies to enable co-delivery of solutions.
- Comments called for clarification on how other (non-public water supply) sectors have been considered in the development of the plan.
- One comment thanked us for the opportunity to comment on our draft plan and welcomes strategic long-term planning.

B.4 COMMENTS ABOUT SECTION 4 DEMAND FORECAST

Our demand forecast has been revised due to both technical and regulatory guidance updates and consultation responses received.

Technical and regulatory guidance updates

Our demand forecast has been refreshed for the rdWRMP24. Our base year has been updated to 2021/22. This has involved updating the population and property forecasts to reflect numbers based on the 2021 Census, and our 2021/22 annual performance reporting which includes leakage and metering. Moving the base year of our demand forecast has had the impact of increasing the amount of water we assume households are using at the start of our planning period because the starting position now includes the post-pandemic 'new normal' of more people working from home for significant periods. This overall demand forecast for both the draft and revised draft plans is summarised in Figure B1. Further detail is provided in Section 4 of the main statutory plan.

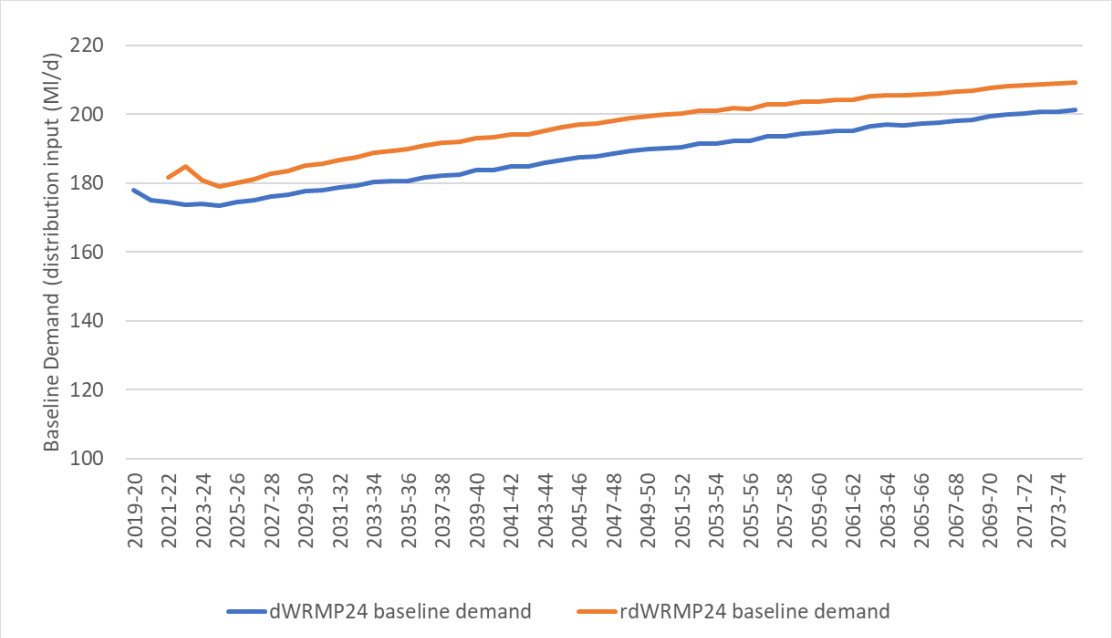


Figure B1: Overall demand forecast between the draft and revised draft WRMP24

Summary of Representations

34 consultation comments were logged under 'Section 4: Demand Forecast' of our dWRMP24. The key themes include the following:

- Representations about our demand forecast largely related to requests for additional information, clarity over methods and AMP7 leakage and PCC performance. Some customers expressed concern over the building of new properties in the region and asking Portsmouth Water to clarify expectations on Water Neutrality.
- Representations asked for specific separate additional information or points of clarification to be added to the dWRMP24. For example, one comment asked how we intend to update

the base year for the rdWRMP24, and the other questioned if the demand forecast satisfies PR19 performance commitment levels for leakage and PCC.
- Representations asked questions about our property or population forecasts.
- Representations queried the forecast assumptions included for non-household water demand.
- Representations were received requesting that the demand forecast 1 in 20 year level of service for Temporary Use Bans be reflected in the WRSE regional planning.

B.5 COMMENTS ABOUT SECTION 5 SUPPLY FORECAST

Our Supply forecast has been revised due to both technical and regulatory guidance updates and consultation responses received.

Technical and regulatory guidance updates

As a result of revised regulatory WRPG we have updated the supply forecast information in our WRMP tables to show a baseline 1 in 500 year position throughout the planning period, instead of transitioning from 1 in 200 year to 1 in 500 year during 2020s and 2030s. We have also improved the information on environmental destination within a new appendix (Appendix 5B). This contains source level potential glidepaths with reasons for potential reductions, including Water Framework Directive (WFD) no deterioration and Ecological Good Status.

AMP 7 Scheme updates
A review of the impact of planned AMP7 supply and demand schemes has resulted in the removal of planned enhancements to the Source O and Source J sources. As stated in our WRMP19 and dWRMP24, our ability to provide an additional 9 Ml/d bulk supply to Southern Water depended upon the success of borehole investigations at Source J and our subsequent ability to license the assets required. The enhanced deployable output at Source J and the bulk supply to Southern Water has therefore been removed from our rdWRMP24 and the regional WRSE modelling. This has been clearly communicated with Southern Water through our ongoing discussions and via formal letter.

Updated Hampshire Python for Water Resources (Pywr) model
Our supply forecast has been improved using data from an updated Hampshire Python for Water Resources (Pywr) model developed in partnership with Southern Water. This has allowed us to model the interconnections and linkages of the Havant Thicket reservoir approved scheme, as well as proposed future options, across both our supply systems as an interconnected system for the first time.

The model has been used by both companies, including the assessment of Southern Water's HWTWTP. Using this model, our deployable output (DO) scenarios, and the associated outage assumptions, have been revised to include updates to the following aspects of our supply forecast planning:

- **The impact of Havant Thicket Reservoir approved scheme**
  The model allows a more detailed assessment of the conjunctive use benefit of Havant Thicket Reservoir upon the operation of the wider Portsmouth Water and Southern Water supply systems across a range of configurations and scenarios.

- **The potential impact of Climate Change**
  The potential impact of Climate Change on the DO of Portsmouth Water's Water Resource Zone (WRZ), which has been examined in more detail to explore the risks to DO.

- **Improved flow modelling of the River Itchen**

  The model provides a more detailed representation of the River Itchen compared to the previous modelling. The flows available for abstraction by Portsmouth Water are more dynamically naturalised due to the representation of Southern Water's WRZs within the model. This improves confidence in the volume of flow available for abstraction in the River Itchen calculated by the model.

- **Drought actions**

  The benefit of the Source S Drought Permit has been reassessed along with the benefits of demand saving schemes such as Temporary Use Bans (TUBs) and Non-Essential Use Bans (NEUBs). The TUBs benefits equate to ~7.3% reduction in demand, with NEUBs applying an additional ~5% demand reduction.

- **Updated Drought Vulnerability Assessment**

  This has been updated and is presented in Appendix 1F with no major change from the assessment undertaken for the dWRMP24.

- **The impacts of abstraction licence capping by 2034, and Environmental Destination by 2050**

  A significant update is a review of the potential sustainability reductions with the Environment Agency to meet Environmental Destination. The updated profile results in potential sustainability reductions sooner and to a greater volume (as shown in Figure B2). Since the dWRMP24 we have produced a new appendix which details the approach to confirming these updated volumes. Please refer to Appendix 5B.

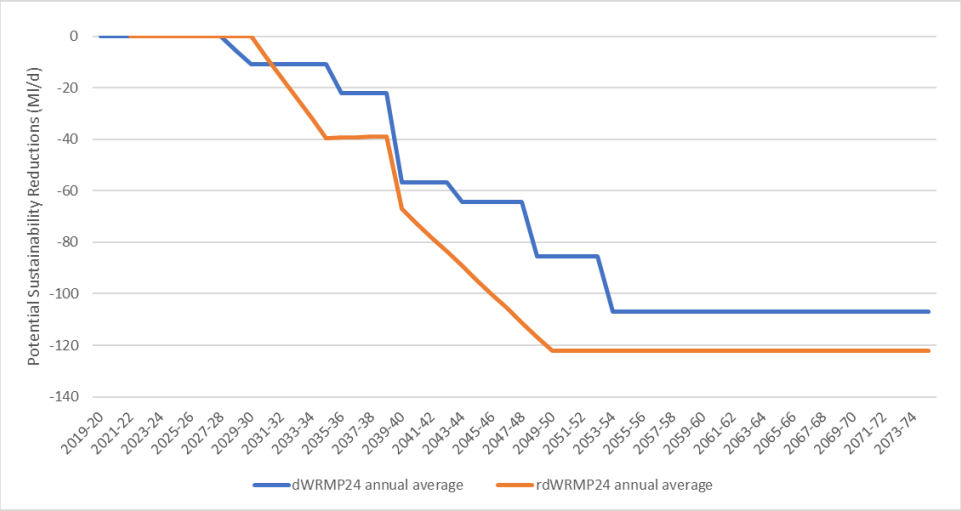


Figure B2: Change in sustainability reductions between dWRMP24 and rdWRMP24

Summary of Representations

There were 64 consultation comments logged under 'Section 5: Supply Forecast' of our dWRMP24. The key themes include the following:

- Representations asked for a more ambitious Environmental Destination.
- Representations asked for the impact of climate change on our ability to supply water.
- Representations were received on our Havant Thicket Reservoir Scheme. One of these was from the Environment Agency requesting that we carry out sensitivity testing to assess what impact a delayed Havant Thicket Reservoir would have and what mitigation would be required.
- Four of these representations were about existing bulk transfers. Of these, three queries related to our existing bulk transfers to Southern Water.

- Representations asked how bulk transfers to New Appointments and Variations (NAVs) have been accounted for in the supply forecast.
- Representations queried the risks of non-renewal of time limited abstraction licences and how WFD deterioration will be managed.
- Representations queried the supply activities planned this AMP (AMP7, between 2020-25).
- Three comments were from regulators asking that we reflect 1:500 supply resilience from the first to the last year of the planning horizon, and the impact this has on Deployable Output.
- We received two queries about our outage allowances.

B.6 COMMENTS ABOUT SECTION 6 HEADROOM AND SUPPLY DEMAND BALANCE

Technical and regulatory guidance updates

Based on the updated demand and supply forecast, our overall supply demand balance deficit is greater than that in the draft plan. This has resulted from updated deployable output modelling, greater demand forecast (i.e. now including the effects of Covid-19) and also greater sustainability reductions. Therefore, additional investment, above and beyond that identified for the dWRMP24 is needed. This is shown in Figure B3.

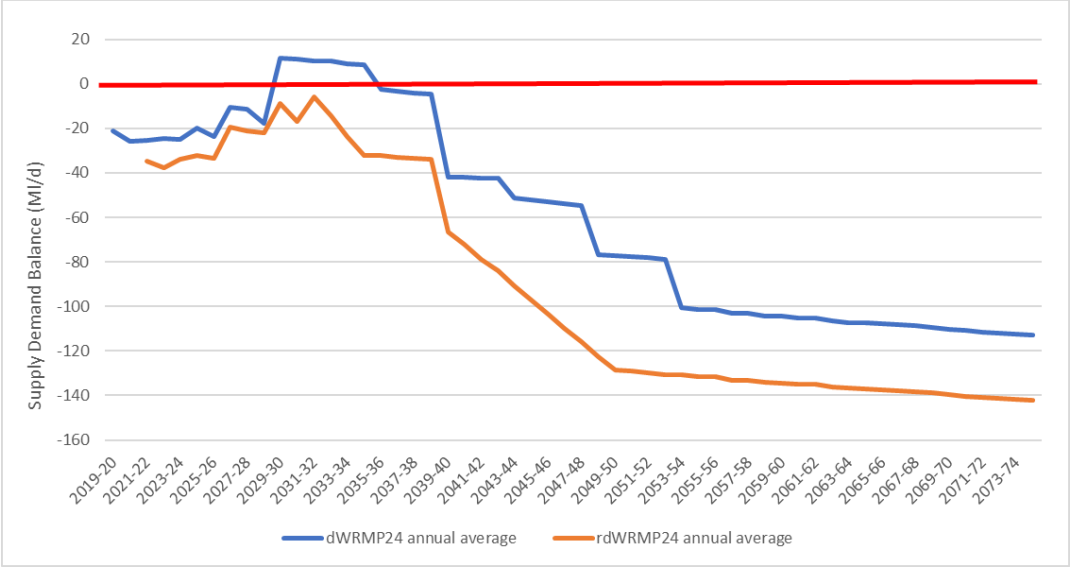


Figure B3: Change in supply demand balance between dWRMP24 and rdWRMP24

Because the demand forecast base year has been revised to 2021/22, baseline demand now reflects the impact of Covid-19 on demand, so the target headroom assessment has been revised to remove the impact of Covid-19 on demand to avoid double counting. The change between draft and revised draft target headroom is presented in Figure B4.

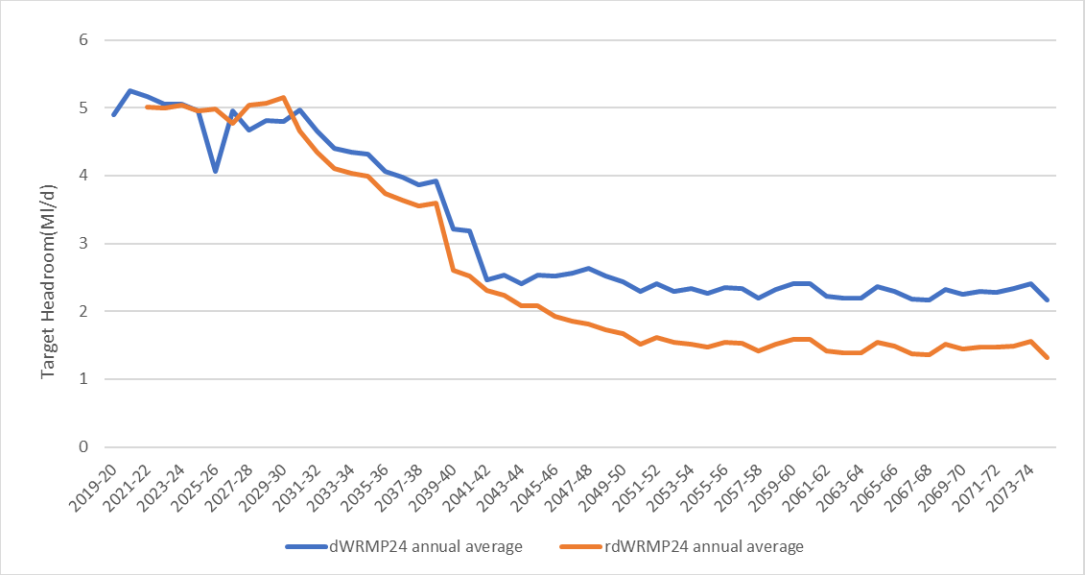


Figure B4: Change in target headroom between dWRMP24 and rdWRMP24

Summary of representations

There were 13 consultation comments logged under 'Section 6: Headroom and Supply Demand Balance' of our dWRMP24. The key themes include the following:

- Drawing a comparison between our WRMP19 and dWRMP24 and asking for greater information about either our AMP7 delivery or more comparative data between the plans.
- Assumptions for drought orders and permits over the planning period.
- One consultee asked for a detailed understanding of deficits in the agricultural sector.

B.7 COMMENTS ABOUT SECTION 7 OPTION APPRAISAL

Receiving 914 comments, option appraisal is the most significantly commented on area of our plan. Of these, 666 comments are related to the Hampshire Water Transfer and Water Recycling Project in the Southern Water Plan (including indirect comments about Southern Water), 36 comments are about alternative or supply options in general, 189 comments are related to demand management options and 23 are more general comments about options appraisal. This following section provides a summary of the key themes.

B.7.1 Demand Management Options

In response to the revised regulatory guidelines, we have made it clear in our rdWRMP24 that compulsory smart metering is receiving transitional funding (see Figure B5). This means that in June 2023 the scheme was supported by Ofwat as one of its accelerated infrastructure delivery project schemes[13]. As a result, we can invest £11.5 million in our metering programme delivery between 2023 and 2025, before the start of the WRMP24 planning period. Ofwat have referenced a further £52.8 million in potential investment in the smart metering scheme for the 2025-30 period.

[13]Accelerated infrastructure delivery project: final decisions (June 2023) Ofwat A0-accelerated-process-final-decisions.pdf (ofwat.gov.uk)

Portsmouth Water will invest a potential £12 million over 2023-25 and £64 million in total to accelerate their universal smart metering programme in Hampshire and West Sussex.

The scheme will focus initially on accelerating investment on supporting infrastructure which will enable the use of smart meters early in the 2025-30 period. This supporting infrastructure includes a meter data management system, cloud storage infrastructure, software purchasing and system implementation and integration. It will also include the implementation of a smart metering trial which will involve the installation of 500 smart meters. The investment will enable an additional 43,300 smart meters to be installed in the 2025-30 period. These additional meters are expected to deliver water savings of 2.5 Ml/d by March 2030.

Figure B5: A case study for smart metering transitional funding included in Ofwat's June 2023 'Accelerated infrastructure delivery project'

We have also changed the targets for demand during the planning period as the March 2023 WRPG specified that household per capita consumption (PCC) targets need to be achieved in dry years as well as normal years. Additionally, we have worked at a regional level across the South East of England, through WRSE to review and revise the way we have included the impact of government interventions such as a water labelling scheme. This is called the 'Gov Led C+' option and is now tested within our demand model.

Summary of representations

We received the following key comments about 'Section 7: Options Appraisal' of our dWRMP24.

Demand Management Options

We received 189 individual comments about the options in our dWRMP24 to reduce demand for water.

- Respondents were supportive of plans for leakage but asked for greater reductions, sooner.
- Respondents were largely supportive of metering but sought clarity on the delivery of smart metering.
- Respondents were largely supportive of water efficiency but asked for further focus on non-households and greater clarity on the delivery.
- One respondent suggested that we strengthen the way we work with developers to minimise the impact of new developments.
- Four comments were about government interventions to encourage greater water efficiency.
- Three comments were supportive of a trial of variable tariffs with protections for vulnerable households.
- One comment asked us to explore options to separate greywater from effluent.

B.7.2 Supply Options

Supply options were the most commented on section of our dWRMP24, receiving around 50% of the total comments received. Most of these comments were about an option contained in Southern

Water's dWRMP24 - the Hampshire Water Transfer and Water Recycling Project (666 responses). Our response to this is detailed in Section 6 of this SoR, and in Appendix 7F of our rdWRMP24.

Of the remainder of comments about our supply options, excluding the Hampshire Water Transfer and Water Recycling Project, the following key themes were identified:

- Respondents asked Portsmouth Water to explore developing additional storage schemes to store water when it is available for times when there is less availability, including reservoirs and Managed Aquifer Storage Schemes (MARS).
- Four comments specifically supported named supply options included in our dWRMP24.
- Respondents asked us to explore the opportunities for non-potable supplies as well as the financial implications of new supply schemes for the agricultural sector.
- Respondents asked Portsmouth Water to explore benefits from more flexible abstraction licences that could allow more water to be abstracted during winter months.
- Respondents noted the investigation process that would be required before any new groundwater proposals.
- Respondents asked us to reconsider desalination as a viable option.
- Respondents asked how supply options have been costed for. One recommended that development and interconnector costs of supply options are both considered. The other questioned if the costs of the energy required to transport water have been included in long-term costings.

One comment was received about each of the following:

- Yield assumptions of our Source S drought permit proposals.
- Requesting that we reconsider supply side options that have been rejected in the past.
- Requesting consistent naming of options across Water Company and regional plans.
- Recommendation that options that do not have a WAFU benefit should be included in Water Company WRMPs and Business Plans.
- Support for the greater use of national transfers.

B.8 COMMENTS ABOUT SECTION 8, DEVELOPING THE PLAN – DECISION MAKING, INCLUDING ENVIRONMENTAL ASSESSMENTS

30 consultation comments received related to decision making and 104 consultation comments received related to environmental assessments which are included in 'Section 8: Developing the plan' of our dWRMP24.

B.8.1 Decision Making

Summary of representations

- Representations asked for further clarity on the decision-making process and the metrics used.
- Representations questioned the use of national targets for demand reductions and if further reductions were needed.
- Representations asked for further information on alternative programmes assessed such as the least cost plan and the best social and environmental plan.

B.8.2 Environmental Assessment

Summary of representations

We received comments about the environmental assessments that were carried out to support our dWRMP24. The majority of these were from regulators, with the remainder from NGOs and members of the public. The key comments include the following:

- Comments were received which asked for greater clarity and more detail about our approach to measuring and delivering Biodiversity Net Gain (BNG).
- Comments were received about the carbon impact and assessment.
- Challenge around our compliance with WRPG direction 3(i) (d) in respect of greenhouse gas emissions, carbon assessments and carbon reduction plans.
- Comments were received asking for greater reference to the historic environment in the plan
- Comments were received regarding the identification of transboundary and in-combination effects.
- Comments were received which asked for greater clarity in respect of mitigation and monitoring proposed and secured.
- A consideration of alternative options within the plan.

One comment was received about the following:

- The National Trust confirmed that none of our options affect their properties but requested early engagement if this were to change in the future.

B.9 COMMENTS ABOUT SECTION 9, TESTING OUR PLAN

Summary of representations

There were 13 consultation comments were logged under 'Section 9: Testing our plan' of our dWRMP24. The key themes included:

- Requests for information on sensitivity tests to be undertaken with respect to demand reductions, time limited licences, supply and demand options and Environmental Destination.

B.10 COMMENTS ABOUT SECTION 10, OUR PREFERRED BEST VALUE PLAN

There were 32 consultation comments were logged under 'Section 10: Our preferred best value plan'. The key themes included the following:

- Respondents would like to see further information on how leakage and demand reduction would be achieved.
- Further clarity of over the best value plan and the various interconnections with Southern Water.
- Respondents asked that further information on option utilisation is provided.

The following section provides the summary results of the Website and Barometer Survey for the dWRMP24, which explores overall acceptability of our dWRMP24. Overall the following figures demonstrate high support and acceptability of the plan.

Affordability

The Barometer survey assessed customers' views on affordability. Overall, 76% of customers said the proposed bill increases are affordable, with 11% saying the charges are unaffordable (Figure B6). Our customers' view that water bills are affordable, sampled in January 2023, is an increase from 71% in an equivalent survey carried out in March 2022. Those not in employment or retired are significantly less likely to find the charges affordable.

These overall percentages mirror findings published by CCW in May 2023. Their annual 'Water Matters' survey of the 2022 views of household customers across England and Wales found that 76% of customers agreed that their charges were affordable, whereas 12% of customers felt their charges were unaffordable[14].

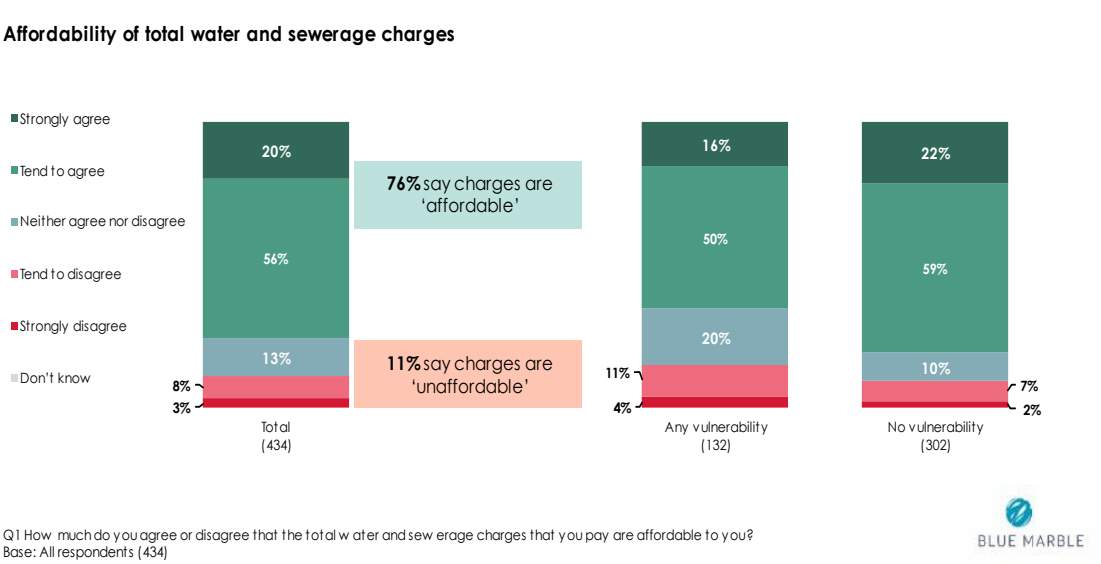


Figure B6: Customers views on dWRMP24 affordability

People who supported each element of the WRMP are consistently more likely to agree that charges are affordable to them than those that do not support elements of the plan. However, the number of people who do not support the plan is very small in comparison to those who do support.

[14] Water Matters 2022 - CCW

One of the six Barometer and Website survey core questions was about the balance between activities to reduce demand for water and activities to create new sources of supply.

- Do you support the balance between saving water from leaks, metering and water efficiency, and water being supplied from new sources?

The Barometer and Website survey results are presented alongside one another to allow comparison between the two surveys. Both surveys demonstrate strong support for the overall balance between supply and demand (Figure B7).

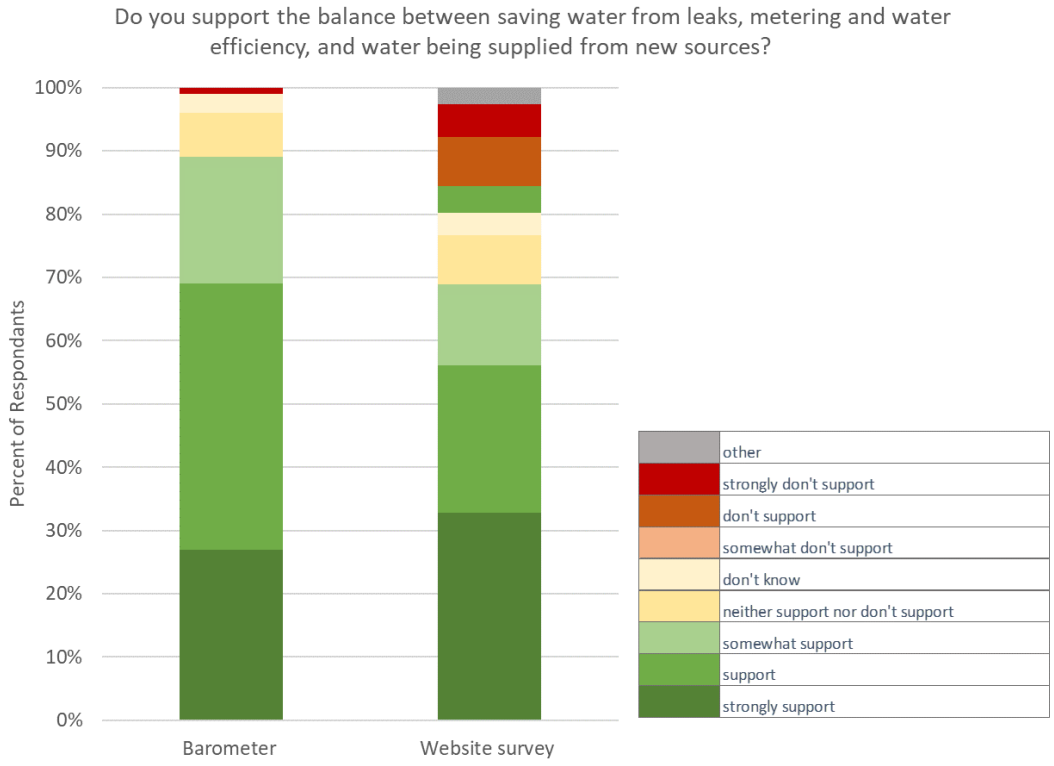


Figure B7: Website and Barometer survey results for the balance of supply versus demand

In addition, we asked our customers five specific questions about our proposals to reduce demand through both our Customer Panel Barometer and Website surveys. We asked the same questions in both surveys so we could reach a greater sample of customers and compare engagement methods.

- Over 85% of customers in both surveys told us that they support our plans to reduce leaks by half by 2050.
- Over 85% of customers in both surveys told us that they support our plans to help homeowners and businesses save water.
- 70% of website survey responses, and 77% of Barometer responses told us that customers support our plans to install meters at most homes we supply to encourage water saving and find more leaks.
- Over 80% of the customers who answered each of the surveys agreed that water bills based on the amount of water a household uses would be fairer than bills based on rateable value (the estimated rent of a property).
- Over 80% of the customers who answered each of the surveys expressed their support for the use of smart meters.

The Figures (B8 to B12) below illustrate the results of these five questions. The Barometer and Website survey results are presented alongside one another to allow comparison between the two surveys.

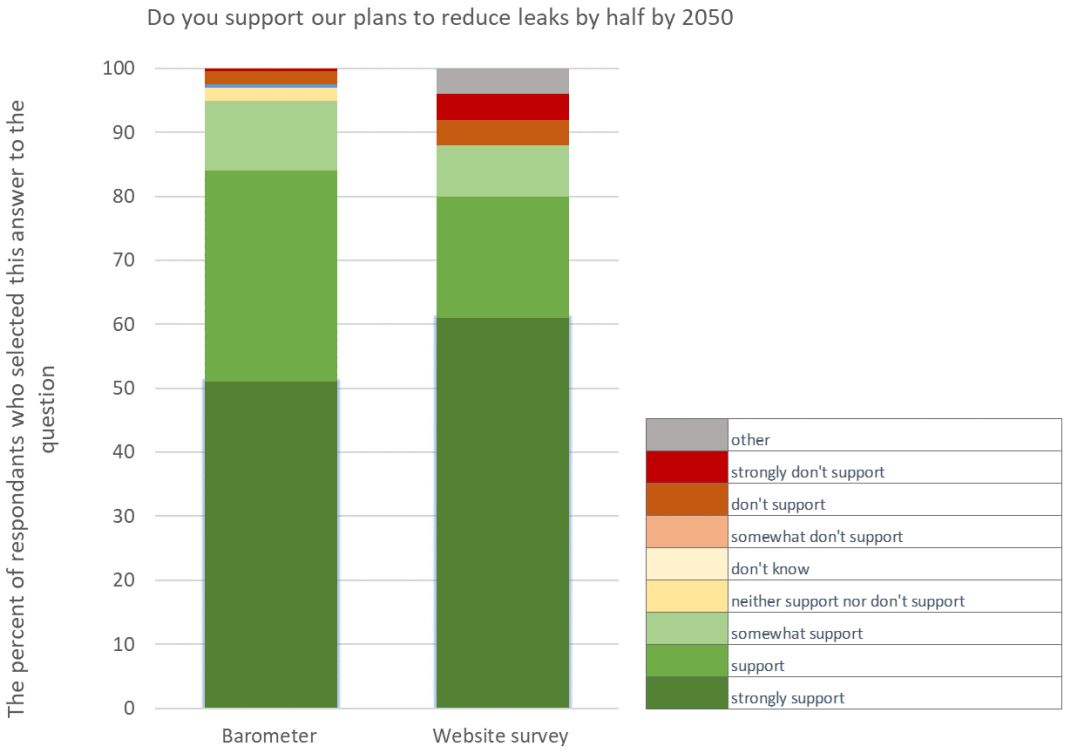


Figure B8: Website and Barometer survey results for our plans to reduce leakage

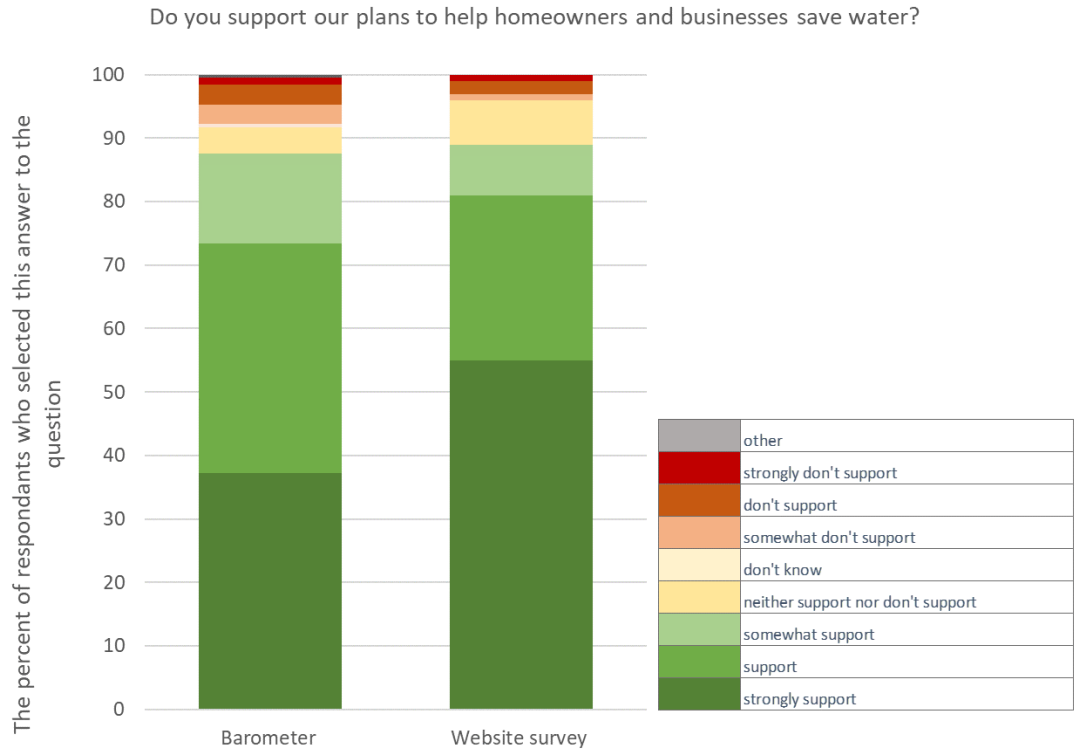


Figure B9: Website and Barometer survey results for our plans to help homeowners and businesses save water

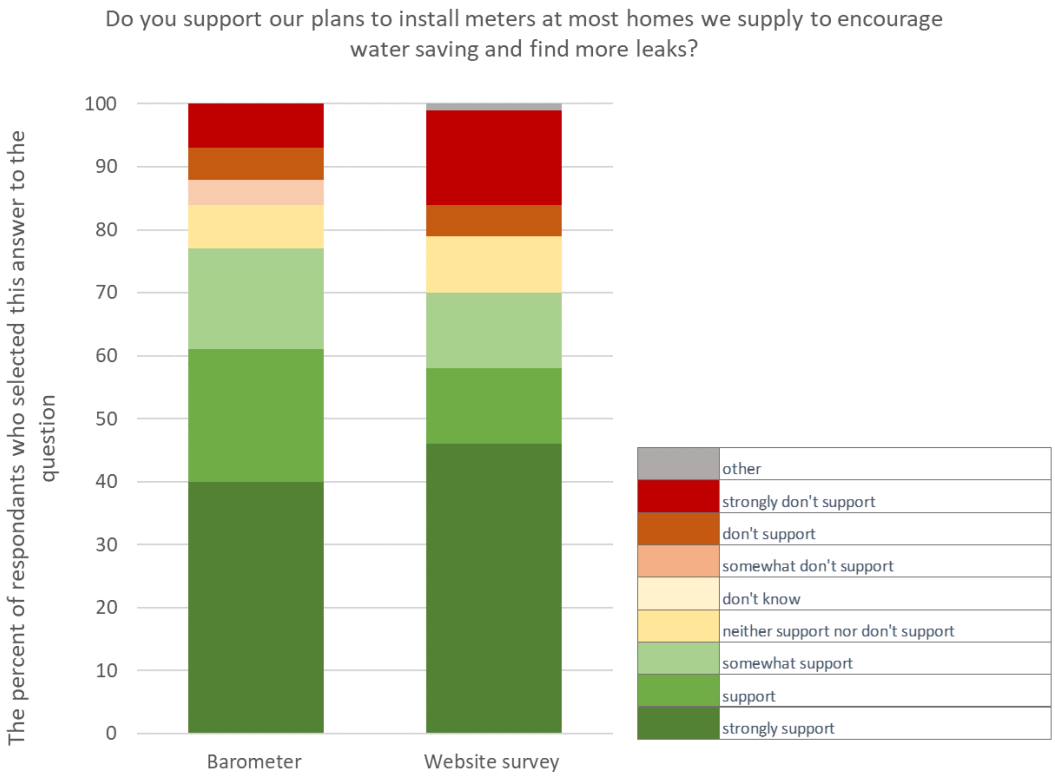


Figure B10: Website and Barometer survey results for our plans use smart meters to identify leaks

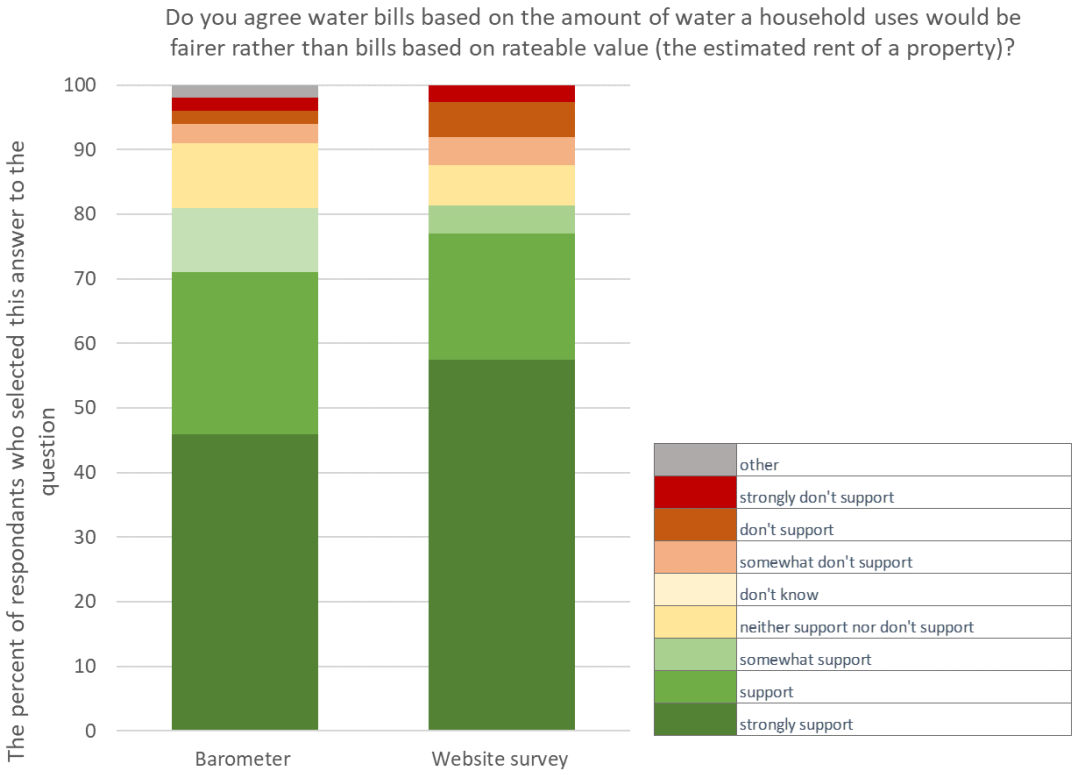


Figure B11: Website and Barometer survey results on if metering reflects a fairer billing approach

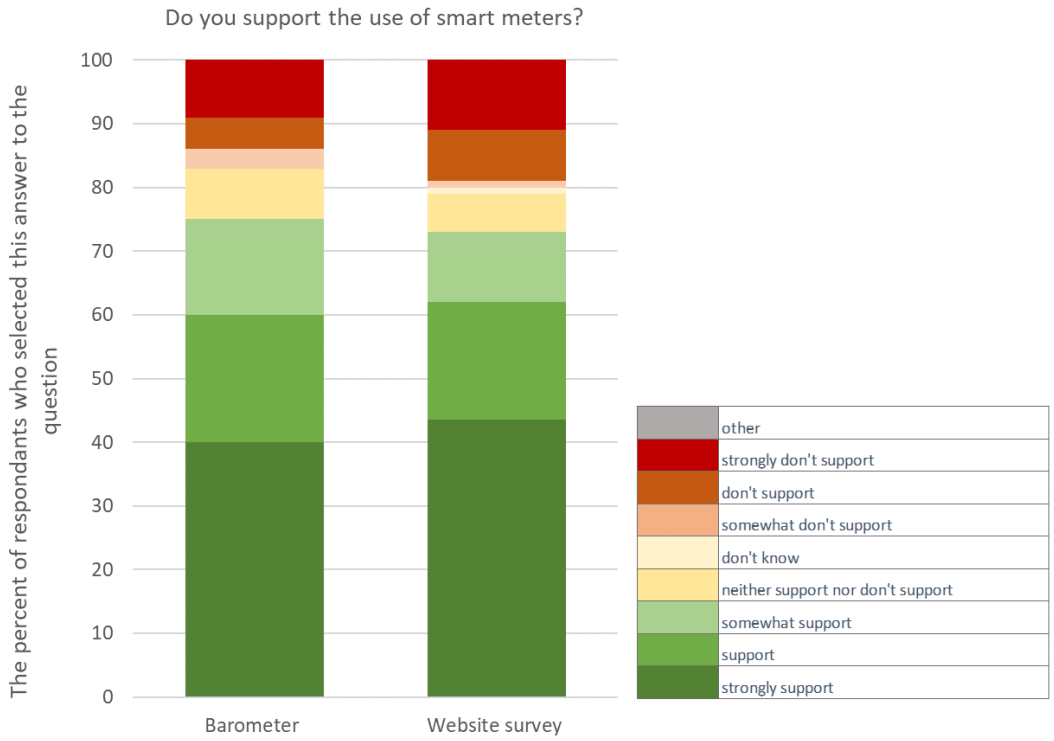


Figure B12: Website and Barometer survey results for our plans to use smart meters

B.11 COMMENTS ABOUT SECTION 11, QUALITY ASSURANCE AND OUR BOARD ASSURANCE STATEMENT

Summary of representations

We received the following key comments about 'Section 11: Quality Assurance and our Board Assurance Statement' of our dWRMP24.

- Respondents were pleased to see board assurance.
- Respondents questioned which aspects of the plan has been subject to assurance.

B.12 OTHER COMMENTS AND PLANNING TABLES

There were a small number of comments which were not easily assigned to a section of the plan. These are classified as 'Other (catch all)' and 'WRMP Planning Tables' in Appendix C and D.

APPENDIX C - SUMMARY OF RESPRESENTATIONS BY THEME

Please refer to separate Appendix C file

APPENDIX D - SUMMARY OF REPRESENTATIONS BY REFERENCE NUMBER

Please refer to separate Appendix D file

APPENDIX E- ORGANISATIONS WHO RESPOINDED TO THE CONSULTATION

Arqiva
Arun District Council
CCWater
Chichester District Council
Environment Agency
Environment Agency
everflow
Forestry Commission
Friends of the Ems
Hampshire and Isle of Wight Wildlife Trust
Havant Borough Council
Havant Climate Alliance
Havant Green Party
Historic England
MOSL
National Farmers Union
National Trust
Natural England
Ofwat
Rowlands Castle Parish Council
RSPB
Sussex Wildlife Trust
the Strategic Panel for the business retail water market in England
Waterscan
Waterwise
West Sussex County Council
West Sussex Growers Association

APPENDIX F - OFWAT REGULATORY QUERIES

Since the submission of the dWRMP24 we received 21 queries from Ofwat which were in addition to the official consultation response provided by Ofwat. Appendix F collates the Ofwat queries, and the response provided by Portsmouth Water.

Ofwat Query 1 (PW_SoR79)

Query 1 was submitted head of the query template being confirmed. This comment relates to PRT-dWRMP-001_responce.

Ofwat Query

Query on draft WRMP/business plan performance trend links:

In the 'Water Resources Planning Tables -Instructions' we set out our expectations that your WRMPs should provide information relating to demand management metrics that will align with the information included in your PR24 business plans to set PR24 performance commitment levels.[15]

The information you provide in table 2a should therefore represent the outputs of your preferred plan in terms of the forecast performance trends you propose to present in your PR24 business plans. Note the data presented will be processed as required to set a PCL in the appropriate unit, for example leakage reduction as a percentage reduction in terms of a three-year average figure from a defined baseline.

We will use the performance trends as submitted in your PR24 business plan when setting PR24 performance commitment levels.

In accordance with the guidance these figures should represent a normal year rather than a dry year or other scenario.

1. Could you please confirm that the figures presented in table 2a in the lines listed below represent how you would present your draft WRMP proposals in terms of PR24 business plan performance trends. If the data currently provided in table 2a does not meet this requirement, could you please provide an updated data table 2a containing the appropriate data.
    - 1NY Total Household Consumption
    - 2NY Average Household – PCC
    - 3NY Total Non-Household Consumption
    - 4NY Total Leakage
    - 5NY Distribution input

2. Could you please confirm the population figures that you have used to calculate your PCC figures and where these are presented in your plan.

3. Could you please identify as requested in the 'Water Resources Planning Tables -Instructions' where you have explained the assumptions you have used to determine the normal year figures you intend to propose in your business plan.

The following Table 2a Notes were added to our draft WRMP24 tables spreadsheet:

- The data in Table 2a (rows 1NY to 5NY) represent how we would present our draft WRMP proposals in terms of PR24 business plan performance trends.
- Annual data for years 2019-20 to 2021-22 (shaded blue) represent historic data submitted to Ofwat (blue highlighted).
- Annual data for the years after 2021-22 represent final plan data for the normal year annual average scenario for our preferred plan (adaptive planning Situation / Pathway 4).
- Population figures relevant to the calculation of PCC are provided in row 39FP and 40FP in Table 3c (adaptive planning Situation / Pathway 4 with housing plan growth).

[15] 'Water Resources Planning Tables -Instructions', 2022, pp.18-19

- Further information on how these normal year figures were derived is provided our Water Resources Management Plan; Section 4 (baseline demand), Section 10 (our preferred best value plan, including options to reduce demand in Section 10.4), and Section 2 (provides background on adaptive planning and Situation / Pathway 4).
- The key assumption is that the demand management options in our preferred plan (including universal metering and government led activities) will result in an average PCC of below 110 l/h/d by 2050 and a 50% reduction in leakage by 2050 relative to the 2017-18 historic leakage value of 32.38 Ml/d.

Company Response:

Portsmouth Water replied via email confirming the changes to the dWRMP24 planning tables. We uploaded revised WRMP24 tables to the sharepoint. The file name was 'Portsmouth Water WRMP24Tables_v4'.xlsx. Updates have been made to Table 2a (final plan normal year data with text box commentary e.g. population figures) and Table 7s (inclusion of least cost plan tables) in response to recent Ofwat queries and clarifications.

Ofwat Query 2 (PW_SoR231)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-002
Date sent to company	08/11/2022
Response due by 5pm on	22/11/2022

Query – Option utilisation

The Water resources planning guideline (section 8.3 i) states that you should provide:
"*A description of how the option will be utilised and the impact on operating costs and carbon costs. You should describe the expected utilisation in both an average year (assumed long term utilisation scenario) and a theoretical annual maximum utilisation scenario*".

Whilst an average and maximum (Ml/d) utilisation has been provided in Table 4, please could you provide a description of how the option will be utilised and the impact on operating costs and carbon costs. This information only needs to be provided for supply options over 10Ml/d in your Preferred Plan or Alternative Plan.

The description should include:

- Quantitative presentation of anticipated utilisation rates determined from company and/ or regional modelling.
- Utilisation rates for dry year annual average operation, for events such as 1:500 year droughts, peak demand or as part of emergency response, in addition to standby, or normal-year operation.
- Where uncertainty exists in utilisation rates, a range of potential utilisation rates presented, evidenced with modelled calculations and descriptions of scenarios considered.
- Third party options explored to increase utilisation and value from solution supply.

Please complete the accompanying spreadsheet and return to us by the 22/11/2022.

Thank you.

Company response

Water Resources South East (WRSE) held discussions with Ofwat in November 2022 to clarify requirements for this option utilisation request. It is our understanding that WRSE agreed a revised template spreadsheet with Ofwat. This has subsequently been populated by WRSE using data from the regional investment model and then reviewed by Portsmouth Water.

Please see 'WRMP24 Utilisation PRT for Ofwat 2022_11_22_submitted.xlsx' for the utilisation data on options that can provide over 10 Ml/d. It is our understanding from WRSE that the data in this spreadsheet, combined with that already provided in the WRMP24 tables (including cost and carbon data), fully satisfies the data request from Ofwat.

Date of response to Ofwat	22/11/2022

Ofwat Query 3 (PW_SoR232)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	dWRMPQuery_PRT_003
Date sent to company	28.11.2022
Response due by 5pm on	30.11.2022

Query

The Water Resources Planning Guideline (section 4.8) states:

"Your baseline water resources planning scenarios should include the following assumptions... benefits of schemes that have met one and, or more of the following conditions: • have planning permission to go ahead; • a funding allowance made by Ofwat in a business plan for delivery of the scheme; or • other necessary permissions such as abstraction licences or environmental permits".

Ofwat's November 2021 letter to Water Companies also said that:

"Companies should set out what has already been, and what is forecast to be, delivered in line with WRMP19, as well as explaining where alternatives have been delivered in place of funded WRMP19 options and why these have resulted in better outcomes for customers and the environment."

Please can you confirm that all your funded scheme benefits from WRMP19/PR19 are included in your baseline supply-demand balance? This should include the date that the benefit is realised is the same as proposed in WRMP19/PR19.

Please can you us let us know where we can find the evidence in your draft WRMP24 that these benefits have been appropriately accounted for in the baseline DO/WAFU forecasts? This should include evidence that the date of benefit realisation is the same as proposed in WRMP19/PR19.

Company response

We can confirm that all of our funded schemes from WRMP19/PR19 are included in our baseline supply-demand balance. In the case of Portsmouth Water the benefits and timing reflect the position in our latest Revised WRMP19 tables submitted to regulators in June 2022.

Our draft WRMP24 describes the original WRMP19 assumptions in Section 5.2.4.2 for supply side schemes (other than Havant Thicket reservoir) and sets out the revised WRMP19 assumptions in Section 5.2.4.3. Then Section 5.2.6 provides further information on the Havant Thicket reservoir benefits and timing.

The 'rWRMP19_SEAA_1in200_AA_v8_submitted.xlsx' file submitted in June 2022 recognises a Deployable Output (DO) of 193.50 Ml/d (see row ref. '7BL' on tab '2. BL Supply'). The same file demonstrates 16.90 Ml/d increased raw water abstraction associated with Source 'J' Boreholes, Source 'H' & 'O' DO recovery plus [Source S] drought permit in 2024-25 (as derived from our Pywr water resources model). A screen shot of the revised WRMP19 Table is shown below.

Table 6: Preferred list of water management options

DRY YEAR PLANNED GAINS IN WAFU OR SAVINGS IN DEMAND (Ml/d) - TO BE COMPLETE

Row Ref	Option Name [insert / delete non-numbered lines to suit]	Option Reference No.	Unit	Decimal places	Revised Base Year 2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
58	**Resource Management**	-	Mld	2	20.20	20.20	20.20	20.20	20.20	33.50
58.1	Increase raw water abstractions	-	Mld	2	3.60	3.60	3.60	3.60	3.60	16.90
-	Havant Thicket Reservoir	R013	Mld	2	0.00	0.00	0.00	0.00	0.00	0.00
	Source J Boreholes, Source C, H & O DO recovery, plus Slinde	R022a, R024a, R023a, R021a, R068	Mld	2	0.00	0.00	0.00	0.00	0.00	16.90
		R068	Mld	2	3.60	3.60	3.60	3.60	3.60	0.00

When translating these figures to our draft WRMP24, the standalone benefit for [Source S] permit of 3.6 Ml/d is removed from the 16.90 Ml/d, because the drought permit is retained as an option. However the remaining 13.3 Ml/d is added to the Revised WRMP19 baseline DO of 193.50 Ml/d to give a draft WRMP24 baseline DO of 206.8 Ml/d. A screen shot of the draft WRMP24 Table 3a is shown below.

Table 3a: DYAA - Baseline Back to top of sheet

WRMP24 reference	Component	Derivation	Unit	Decimal places	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
1BL	Raw water abstracted	Input	Mld	2	201.85	206.41	205.85	205.04	205.48	213.80
1.1BL	Non-potable water supplies (if applicable)	Input	Mld	2	0.00	0.00	0.00	0.00	0.00	0.00
2BL	Raw water imported	Input	Mld	2	0.00	0.00	0.00	0.00	0.00	0.00
3BL	Potable water imported	Input	Mld	2	0.00	0.00	0.00	0.00	0.00	0.00
4BL	Raw water exported enter as -ve	Input	Mld	2	0.00	0.00	0.00	0.00	0.00	0.00
5BL	Potable water exported enter as -ve	Input	Mld	2	-22.50	-30.00	-30.00	-30.00	-30.00	-39.00
6BL	Deployable Output before forecast changes	Input	Mld	2	193.50	193.50	193.50	193.50	193.50	206.80

Date of response to Ofwat	29.11.2022

Ofwat Query 4 (PW_SoR233)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-004
Date sent to company	28/11/2022
Response due by 5pm on	1/12/2022

Query

Can you please confirm that the financial information in your draft WRMP was submitted in 2020/21 prices, as mentioned in the WRMP guidance?

Processing rules:	Input

Table 8. Business Plan Links

This is a new table for the current round of plans. The aim of this table is to provide a clearer link between WRMP and business plan submissions. This will provide a view of the impact of the WRMP on future business plan requirements in terms of costs and benefits delivered. It will allow for improved reconciliation between your company's WRMP and business plan submission. We would expect the table to be used as a point of reference when you explain any changes between their WRMP and business plan submissions. The cost base in which the numbers are reported should also be included and is expected to be 2020/21 as detailed in the WRPG.

At a minimum you should complete table 8 for your preferred (most likely), least cost and Ofwat core programmes, as provided in the template. Any issues with this should be discussed with Ofwat.

If you have alternative programmes, you can complete a repeat set of Table 8 for one or more of your alternative programmes. This may be requested by Ofwat.

Company response

We confirm that the financial information in our draft WRMP was submitted in 2020/21 prices.

There is a green text box at the top of the Table 8 tab within our submitted dWRMP24 Tables (spreadsheet) that also confirms this.

Date of response to Ofwat	29.11.2022

Ofwat Query 5 (PW_SoR234)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth
Query number	PRT-dWRMP-005
Date sent to company	05/12/2022
Response due by 5pm on	07/12/2022

Query

Please could you explain how you have interpreted and applied the low common reference scenario for abstraction reductions, which requires companies to 'assume only currently known legal requirements for abstraction reductions up to 2050'?

Company response

The development of our environmental destination (abstraction reduction) scenarios is described in Section 5.4 of our draft WRMP24.

Our 'low' environmental destination scenario was based on a joint assessment with the local Environment Agency team. The scenario represents our estimated impact of 'licence capping', which is required to prevent deterioration of water body status i.e. to meet the legal requirements of the Water Framework Directive. Therefore the 'low' environmental destination profile also represents our interpretation of Ofwat's low common reference scenario for abstraction reductions.

The identification of deployable output reductions for the low scenario was informed by recent actual abstraction data for the period 2010 to 2015. Initial deployable output reductions of around 5.5 Ml/d occur in 2028–29, rising to 11 Ml/d by the early 2030s and 22 Ml/d by the late 2030s (for a 1-in-500 year drought condition). This assumes progress in revising time limited licence variations and the completion of WINEP investigations and options appraisals in Asset

Management Plan Period (AMP) 8 and AMP9. Please note we do not have any confirmed or likely sustainability changes to licences to be implemented in AMP7.

The low scenario is part of our core reported pathway (adaptive planning pathway / situation 4) up until 2039/40. Beyond this point (including up to 2050) our core reported pathway follows a high environmental destination scenario to comply with the Water Resources Planning Guideline. However the adaptive planning pathways / situations 3, 6 and 9 explore the continuation of a low scenario beyond 2039/40 (see Figure 33 of our draft WRMP24).

Date of response to Ofwat	07.12.2022

Ofwat Query 6 (PW_SoR236)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-006
Date sent to company	05/12/2022
Response due by 5pm on	08/12/2022

Query

1. The importance of engagement with neighbouring water companies is referenced in the report. Other than Havant Thicket, does the plan explain how they intend to use such partnership opportunities to enable co-delivery for solutions?

2. Engagement with retailers is evidenced through the pre-consultation stage. Did you recieve any insights into retailers' preferences and how did these impact the dWRMP?

Company response

Co-delivery of solutions with neighbouring water companies

Other than Havant Thicket, the early and mid parts of our WRMP24 are focused on demand management (including universal smart metering) and reducing exports, with limited co-delivery opportunities. However, we are working collaboratively with WRSE companies on sharing best practice around customer engagement, and we are learning lessons from Southern Water (and other members of the industry) with respect to metering and Target 100.

The later part of our plan involves collaboration with Southern Water regarding the potential need for potable imports to the west of our supply area and / or

increased take from Havant Thicket reservoir (supported by a larger Water Recycling Plant). Once the need for these schemes is more certain (via future WRMPs), we will consider co-delivery of solutions.

Engagement with retailers

Our WRMP24 (Section 3.4) describes our pre-consultation activities. Whilst we contacted retailers as part of our pre-consultation, unfortunately we did not receive any insights into retailer preferences.

We recently contacted retailers again to encourage them to join the Portsmouth Water and Southern Water WRMP webinar, which took place on 7th December 2022. We also directed retailers to our WRMP consultation page and encouraged them to share their views.

In addition to seeking views on our dWRMP24, we are also engaging with retailers on our 25 Year Vision and emerging PR24 Business Plan. Any insights into retailer preferences will be considered within our Statement of Response and associated Revised WRMP24.

Date of response to Ofwat	07.12.2022

Ofwat Query 7 (PW_SoR237)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth
Query number	PRT-dWRMP-007
Date sent to company	14/12/2022
Response due by 5pm on	16/12/2022

Query

a. Please can you describe the difference in the scale of investment proposed in this draft WRMP compared to WRMP19?
b. Please can you explain your monitoring plan for the adaptive plan including measurable metrics and how they relate to the decision points?

Company response

a. Please can you describe the difference in the scale of investment proposed in this draft WRMP compared to WRMP19?

For WRMP19 the preferred plan programme was calculated as £119 million.

We'll need to invest around £243 million to deliver our preferred 50-year programme within the draft WRMP24. This includes significant costs associated with rolling out universal smart metering and helping customers to reduce water consumption; this option was not available to us during the development of WRMP19, as we were not classed as operating in an area that was 'seriously water stressed' until 2021. Our draft WRMP24 also considers a longer planning period compared to WRMP19, and includes the development of a new supply option (import of water from Southern Water) for implementation in 2049.

b. Please can you explain your monitoring plan for the adaptive plan including measurable metrics and how they relate to the decision points?

Monitoring and review of progress for the regional adaptive plan is described in the WRSE Draft Regional Plan, Annex 2, Section 18.

WRSE and the six member companies will carefully monitor progress with the implementation of the regional plan and WRMPs, and the key population, environmental and climate data trends relevant to the scale and nature of the water resource challenges facing the South East region.

WRSE will ensure that it prepares and publishes an Annual Monitoring Report, building upon the content of the company WRMP Annual Reviews (normally published in June of each year).

In summary, via WRMP annual reviews and WINEP reporting mechansims, Portsmouth Water proposes to monitor the following key metrics, which relate to decision points in the adaptive plan:

a. Measured and forecast population growth and consequential supply-demand impact of changes to distribution input (in Ml/d). 5-year updates based on ONS and local planning updates should be sufficient.
b. Forecast impacts of climate change on deployable output (in Ml/d) as updated for WRMP29 and WRMP34 consistent with the latest UK climate projections at the time of forecast.
c. Environmental Policy (including licence capping) with respect to the timing and prioritisation of the long term Environmental Destination which in turn will affect forecast impacts to deployable output post the 2035 decision point. This can be monitored through the AMP8 and AMP9 WINEP investigations and options appraisal programme and use this reporting mechanism.
d. Progress with demand side options (e.g. we are proposing universal smart metering) and whether this is translating into reduced demand (Ml/d) and PCC in line with target profiles.
e. Drought resilience with respect to progress on supply schemes and how delivery is impacting the supply-demand balance (Ml/d). Our key supply side scheme for AMP8 is Havant Thicket Reservoir. Our annual WRMP review will also confirm drought plan assumptions and whether TUBs, NEUBs, Emergency Drought Order and supply side permits/orders remain valid.

Based on the key factors above we believe that we can use existing reporting mechanisms to provide the information for the regional monitoring plan which

will allow us to keep track of the situations. If the forecast supply demand deficits fall outside the range that has been considered in the plan or for the preferred pathway we will flag how the investment strategies might need to be updated.

Date of response to Ofwat	16.12.2022

Ofwat Query 8 (PW_SoR238)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-008
Date sent to company	14/12/2022
Response due by 5pm on	16/12/2022

Query

Assessment of water needs

In relation to your Supply Demand Balance, please can you point to the section of your plan that:

a) explains the SDB starting position of the WRMP24 planning period compared to the SDB in the final WRMP19 2024-25 year, including justification for any significant difference (as per WRPG sections 6.2 and 6.4);
b) explains how recent actual data is informing an improved understanding of household and non-household demand following the Covid-19 pandemic;
c) provides assurance that you are proposing informed and efficient Level of Service glidepaths on 1:500, TUBs, NEUBs and EDOs.

Company response

Please can you point to the section of your plan that explains the SDB starting position of the WRMP24 planning period compared to the SDB in the final WRMP19 2024-25 year, including justification for any significant difference (as per WRPG sections 6.2 and 6.4)

As explained in Section 6.6 of our plan, we believed it was not possible to make a meaningful comparison between the baseline supply-demand balances for our revised WRMP19 and dWRMP24. This is because in dWRMP24, Havant Thicket is part of our baseline unlike in WRMP19. Furthermore in dWRMP24 the existing bulk supplies to Southern Water are only treated as baseline until contract renewal dates (instead of being included in the baseline throughout the planning horizon). Significantly, the revised WRMP19 also assumes no sustainability reductions, whereas the dWRMP24 includes potential sustainability reductions associated with environmental destination (with licence capping).

With resepect to 2024-25, this year is included in the WRMP24 tables (for information). The Final Plan Dry Year Annual Average supply demand balance is 0.7 Ml/d higher in the WRMP24 tables compared with that in the Revised WRMP19 tables, reflecting a 1-in-500 year benefit for TUBs and NEUBs instead of a 1-in-200 year benefit.

Please can you point to the section of your plan that explains how recent actual data is informing an improved understanding of household and non-household demand following the Covid-19 pandemic

Section 4.1.1 of our plan identifies that we have used 2019-20 as the base year for the dWRMP24, which was not impacted by Covid restrictions. Therefore we included an allowance for Covid within our target headroom, as explained within Section 6.3. The headroom assumptions were based on the 2021 Artesia study as detailed in Appendix 6A, which reviewed available data on Covid impacts on household and non-household demand.

For the Revised WRMP24 we plan to use 2021-22 as the base year. Whilst this contains an element of Covid restrictions, it will provide an improved understanding of the 'new normal' (including home working) using recent actual data. The headroom assessment will also be updated.

Please can you point to the section of your plan that provides assurance that you are proposing informed and efficient Level of Service glidepaths on 1:500, TUBs, NEUBs and EDOs:

A new WRPG requirement for WRMP24 is that companies' water supply systems are resilient to a 1-in-500 year drought by 2039. Section 1.7.7 of our plan includes the following:

- For this dWRMP24 we are planning to deliver the government expectation of increased resilience to a 1-in-500 year drought event by 2039. To

achieve this, our baseline supply forecast shifts from a 1-in-200 year condition to a 1-in-500 year condition in 2038–39, and the default for all proposed options/interventions in this dWRMP24 is that they provide a benefit associated with the 1-in-500 year condition. This includes drought actions such as demand-side Temporary Use Bans (TUBS) and Non-Essential Use Bans (NEUBs), starting from 2025–26.

- Furthermore, supply-side drought permits are not available for selection beyond 2040–41. This aims to decrease our reliance on options that could impact the environment when it is already stressed by drought.

The use of a 1-in-200 year baseline supply forecast combined with the selection of options/interventions based on a 1-in-500 year benefit creates a suitable hybrid scenario to develop 1-in-500 year resilience by 2039.

The WRSE investment model explored achieving 1-in-500 year drought resilience by 2035, 2040, 2045 and 2050. See regional plan Annex 2 (Section 14) and the Investment Modelling Report. The cost differences of accelerating or delaying drought resilience compared to the best value plan are due to the investment model selecting different combinations of schemes for each of the scenarios in the investment modelling runs. The key schemes remain consistent between the different plans.

The WRSE sensitivity testing demonstrates that we have an informed and efficient Level of Service glidepath.

Date of response to Ofwat	16.12.2022

Ofwat Query 9 (PW_SoR239)

Company	Portsmouth
Query number	PRT-dWRMP-009
Date sent to company	14/12/2022
Response due by 5pm on	16/12/2022

Query

The water resources planning guideline asks companies to present a core pathway that includes:

1) 'activities to meet low but likely scenarios as described by Ofwat';

2) 'delivery of additional option value, to allow further flexibility in the future'.

Please could you separately set out the total expenditure in 2025-30 and 2030-35 associated with each of these elements, ie 1) the expenditure required to meet outcomes under only the low common reference scenarios, and 2) the expenditure included in the core pathway over and above this, to support future alternative pathways and triggers?

Company Reply

This reply was provided to Ofwat directly via a meeting with WRSE and Ofwat on 15/12/2022.

Ofwat Query 10 (PW_SoR240)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-010
Date sent to company	14/12/2022
Response due by 5pm on	16/12/2022

Query

In relation to decision making please can you point to the section of the plan where the following is evidenced or provide additional information on the following queries:

1) Are other sectors included at regional (WRSE) and company level?
2) Have incombination assessments been carried out for environment, deployable output and resilience at the programme level as part of best value plan assessment?
3) Has sentivity analysis been completed around option costs and lead times?
4) Have Ofwat's public value principles been considered as part of decision making?
5) Has the company ensured that the preferred programme represents low regret best value investment over the long term?
6) Where are cost drivers presented to explain the difference in expenditure between the least cost and best value programme?
7) Has third party technical assurance been carried out on the decision making analysis?

Company response

1. Other sectors are included at regional level, which is then embedded into our WRMP since it is a subset of the regional plan. The regional plan has shown how their future demands could be met, although it is a relatively low proportion of the total water demand in the south east (at 3%) and the regional plan focusses on the needs of the public water supply. In our area, the vast majority of non-public water supplies are agricultural.

2. Environmental assessments were carried out by WRSE on our options alongside options in other resource zones within the same catchment to establish if there are any in-combination effects; please also refer to the WRSE SEA. This is also referenced in sections 1.2 and 8.5.5 of our plan with the SEA report and appendices (including HRA) in Appendices 1D and 1G. The WRSE investment model also considers deployable outputs and resilience across the whole WRSE region (in-combination). Please refer to the regional plan Annex 1 (Section 7).
3. WRSE has completed a thorough set of sensitivity tests and these are set out in the Annex 2 of the regional plan and the Investment Modelling Report.
4. The regional planning team from WRSE has confirmed that the principles are well aligned with the approach taken to Best Value Planning. We have created a set of plans which deliver beyond our statutory obligations and benefit residents, customers and the natural environment. We have been engaging with regulators and stakeholders continuously throughout the process of forming our dWRMP to maximise and optimise the value achieved and ensure customer support for our plan.
5. The progressive hedging technique developed to construct the regional plan uses a least regret type approach in selecting the schemes required in the next five to ten years to meet the various future challenges. Furthermore the additional 102 investment model runs testing scenarios and sensitivities indicate which schemes are consistently selected across a range of challenges in the future. The combination of the the optimisation technique, which considers appropriate solutions across the range of different futures through a nine branch adaptive plan, and the sensitivity analysis should provide evidence of the which schemes are a low regret.
6. Section 10.9 identifies that "The total expenditure for our preferred Best Value Plan reported core pathway ('situation 4') is £243m Net Present Value (NPV), and the total expenditure for the other adaptive planning branches ranges between £227m and £249m NPV. The total expenditure for the Least Cost Plan (and 'situation 4') is £243m NPV i.e. the same as the Best Value Plan. Further information on the cost of alternative plans is provided in the supporting WRMP tables.
7. Yes third party assurance has been provided both at a company and regional level. The companies have assured the data they have submitted to WRSE and WRSE have assured the process used to combine this data to create the regional plan. The outputs have then been chcked by WRSE and the companies.

Date of response to Ofwat	16.12.2022

Ofwat Query 11 (PW_SoR241)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-011
Date sent to company	10/01/2023
Response due by 5pm on	12/01/2023

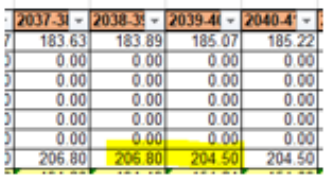
Query

Please can you inform us of the impact that moving to a 1-in-500 year resilience level has on your company Deployable Output, the year this happens and where this can be seen in your WRMP data table lines.

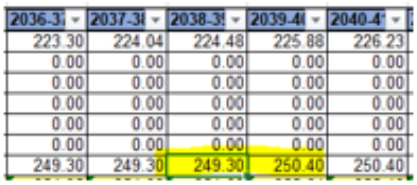
Company response

The Deployable Output impact of 1-in-500 year resilience is most easily observed in WRMP data Table 3a and Table 3d, in the lines for WRMP24 reference '6BL'. In the screenshots below you will see the change occurs in 2039-40 (206.80 Ml/d to 204.50 Ml/d for the Annual Average scenario and 249.30 Ml/d to 250.40 Ml/d for the Critical Period scenario).

The data demonstrate that our baseline (existing) supplies are not particularly sensitive to a change from the 1-in-200 year to 1-in-500 year event.



2037-3	2038-3	2039-4	2040-4
183.63	183.89	185.07	185.22
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
206.80	206.80	204.50	204.50



2036-3	2037-3	2038-3	2039-4	2040-4
223.30	224.04	224.48	225.88	226.23
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
249.30	249.30	249.30	250.40	250.40

Date of response to Ofwat	10.01.2023

Ofwat Query 12 (PW_SoR242)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT_dWRMP_012
Date sent to company	12.01.23
Response due by 5pm on	16.01.23

Query

It is important that any significant changes in your supply demand balance (especially regarding any significant decreases), between previous plans, are highlighted and the reasons explained and justified (WRPG 4.1).

Please complete the following table to show how your baseline SDB for WRMP24 in 2025/26 has changed compared to your final plan SDB for that same year in WRMP19.

Key component	**WRMP19 (FP)** **2025/26 (Ml/d)**	**WRMP24 (BL)** **2025/26 (Ml/d)**	**Difference (Ml/d)**	**Explanation for differences**
Company Supply Demand Balance				
Deployable Output				
Climate change impact				

Sustainability Reductions (WINEP/ Licence capping)				
Environmental Destination				
1-in-500 resilience impact				
Household demand				
Non-household demand				
Target Headroom				
Outage				
Process losses				
Distribution Input				

Company response

The following table shows how our baseline SDB for WRMP24 in 2025/26 has changed compared to our final plan SDB for that same year in the Revised WRMP19 (submitted January 2023). The table provides data for the annual average dry year scenario.

Key component	WRMP19 (FP) 2025/26 (Ml/d)	WRMP24 (BL) 2025/26 (Ml/d)	Difference (Ml/d)	Explanation for differences
Company Supply Demand Balance	2.27	-23.91	-26.18	Differences due to items below.
Deployable Output	226.72	206.80	-19.92	WRMP19 FP includes 16.60 Ml/d for demand side drought orders; 3.6 Ml/d for supply side drought permit; -0.28 Ml/d climate change. These items are exlcluded from the WRMP24 baseline.
Climate change impact	-0.28	-4.08	-3.8	Different climate change impact assessment approach for WRMP24 (use of WRSE method).
Sustainability Reductions (WINEP/ Licence capping)	0	0	0	n/a
Environmental Destination	0	0	0	n/a
1-in-500 resilience impact	0	0	0	1 in 500 resilience not relevant in 2025/26

Household demand	123.59 (54.82 + 68.77)	126.2 (52.38 + 73.82)	2.61	WRMP19 FP includes demand management interventions unlike the WRMP24 BL.
Non-household demand	32.29 (31.71 + 0.58)	32.30 (31.71 + 0.59)	0.01	Rounding
Target Headroom	4.81	4.06	-0.75	WRMP24 headroom manual adjustment (see end of Section 6.3 of WRMP).
Outage	6.70	6.70	0	n/a
Process losses	2.40	2.40	0	n/a
Distribution Input	171.54	174.47	2.93	WRMP19 FP includes demand management interventions unlike the WRMP24 BL.
Date of response to Ofwat			17.01.2023	

Ofwat Query 13 (PW_SoR243)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-013
Date sent to company	19/01/2023
Response due by 5pm on	23/01/2023

Query

1. Summary of enhancement expenditure and benefits to be delivered across the 2025-30 and 2025-50 periods

We have reviewed the information provided in Table 8 of your draft WRMP submission and have summarised the enhancement costs and benefits in table A and table B below. Our assessment of your draft WRMP will include a review of the benefits and the costs to deliver them.

We want confidence in the numbers we will review as part of the analysis as this will inform our draft WRMP feedback and assessment of whether this has been addressed and why changes have been made in the final WRMP[1].

Can you please confirm that the benefits of your draft WRMP24 and the enhancement costs of delivering them are correct in tables A and B. These should reflect the options identified in your preferred programme within your draft WRMP24. Please highlight where there are any discrepancies or issues and provide updated numbers for Table 8 where necessary.

Please see the notes below that identify how we have interpreted Table 8 and some corrections we have made to the template in order to produce the data in

[1] Ofwat, PR24 final methodology – appendix 9, December 2022, pp 82-85.

tables A and B. Also please note there are further questions relating to this query below numbered 2 onwards.

Could you please confirm the basis on which you have provided the benefits in table 8e for your preferred programme. Do they represent a cumulative total benefit or the total benefit for the individual time period eg the year or the five-year period

Tables A and B have been completed assuming the data is cumulative:

- Table A lists the benefits reported in 2029-30
- Table B lists the benefits reported in 2045-50

However, we note for the supply side benefit line there is a slight reduction in the trend between 2035-40 and 2040-45, could you please explain this.

Table A – Summary of expenditure and benefits in the 2025-30 period

Row	SDB element	Total expenditure (£m)	Total benefit (Ml/d)
1	Supply-side improvements	0.047	15.12
2	Demand-side improvements (excl. leakage and metering)	6.733	22.60
3	Leakage improvements	1.812	1.57
4	Internal interconnectors	0.709	1.30
5	Strategic regional water resources	-	*See note 1
6	Metering improvements	34.062	4.50
7	Demand-side improvements (excluding metering) (Lines 2&3)	8.545	24.17
8	Demand-side improvements (including metering) (Lines 2,3&6)	42.607	28.67
9	Overall SDB (excluding interconnectors and strategic schemes) (Lines 1-3,6)	42.655	43.79
10	Overall SDB (no exclusions) (Lines 1-7)	43.364	45.09

Note 1 – Benefits to strategic schemes will be captured in supply-side or interconnector benefits. We consider it is unlikely these benefits will be released in the 2025-30 period due to the longer delivery times for these schemes.

Table B – Summary of expenditure and benefits in the 2025-50 period

Row	SDB element	Total expenditure (£m)	Total benefit (Ml/d)
1	Supply-side improvements	32.772	106.52
2	Demand-side improvements (excl. leakage and metering)	64.543	38.73
3	Leakage improvements	40.145	8.11
4	Internal interconnectors	1.228	1.30
5	Strategic regional water resources	-	*See note 1
6	Metering improvements	101.062	9.48
7	Demand-side improvements (excluding metering) (Lines 2&3)	104.688	46.85

Row	SDB element	Total expenditure (£m)	Total benefit (Ml/d)
8	Demand-side improvements (including metering) (Lines 2,3&6)	205.750	56.32
9	Overall SDB (excluding interconnectors and strategic schemes) (Lines 1-3,6)	238.522	162.84
10	Overall SDB (no exclusions) (Lines 1-7)	239.751	164.14

Note 1 – Benefits to strategic schemes will be captured in supply-side or interconnector benefits. We consider it these benefits will be released in the 2025-50 for some schemes and request further detail see question 3 below.

Further notes on analysis

- Based on responses to previous queries we assume all expenditure is provided in the 2021-22 price base
- The data above is provided for your preferred (most likely) programme
- We have corrected a formula error in lines D1 and D2 to ensure that lines C10-12 and C13-15 are included in the capex and opex totals

2. Expenditure relating to the replacement of existing AMR meters with AMI meters

In lines C10, C11, C13, C14, C16 and C17 the enhancement costs associated with replacement of existing basic meters with AMR or AMI meters is captured. We note that the table does not provide a line associated with enhancement costs relating to replacement of existing AMR meters with AMI meters.

Could you confirm and provide details of any enhancement costs relating to replacement of existing AMR meters with AMI meters? Please indicate if these costs are included in your existing preferred plan in an existing line and identify them separately on the attached spreadsheet 'Metering data for query PRT-dWRMP-013'.

Company response

Can you please confirm that the benefits of your draft WRMP24 and the enhancement costs of delivering them are correct in tables A and B: *These should reflect the options identified in your preferred programme within your draft WRMP24. Please highlight where there are any discrepancies or issues and provide updated numbers for Table 8 where necessary.*

We have reviewed the Ofwat table A and B and they correctly reflect the data in the WRMP24 '8.Business Plan links' tab including option benefits and costs. We have not identified any discrepancies or issues.

Could you please confirm the basis on which you have provided the benefits in table 8e for your preferred programme? *Do they represent a cumulative total benefit or the total benefit for the individual time period eg the year or the five-year period? We note for the supply side benefit line there is a slight reduction in the trend between 2035-40 and 2040-45, could you please explain this.*

We confirm that Table 8e represents a cumulative total benefit. The difference between 2035-40 and 2040-45 in row E1 (supply- improvements) is 1.3 Ml/d, which represents a cessation in the use of our drought permit.

We have corrected a formula error in lines D1 and D2 to ensure that lines C10-12 and C13-15 are included in the capex and opex totals

Please note that if making these changes, line A1 will no longer be valid (to avoid double counting of costs).

Could you confirm and provide details of any enhancement costs relating to replacement of existing AMR meters with AMI meters? *Please indicate if these costs are included in your existing preferred plan in an existing line and identify them separately on the attached spreadsheet 'Metering data for query PRT-dWRMP-013'.*

We do not have any options associated with the replacement of existing AMR meters with AMI meters; we only have options associated with the replacement of existing basic meters with AMI meters.

Date of response to Ofwat	23.01.2023

Ofwat Query 14 (PW_SoR244)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-014
Date sent to company	23/01/2023
Response due by 5pm on	27/01/2023

Query

1. **Increases in base expenditure identified in table 8a**

We have reviewed the information provided in table 8a of your draft WRMP submission and have summarised the increase in base expenditure identified in your preferred programme for the 2025-30 and 2025-50 periods in table A below.

Table A – Summary of base expenditure increases

Row	Line description	2020-25	2025-50
A3	Total totex variance (base) £m	0.181	28.590

Please could you provide a high-level summary of the approach you have taken to identify this proposed increase in base costs from historical levels.

Additionally could you provide a summary breakdown of the activities associated with this expenditure for each period and the benefits expected from these activities. For each activity type please provide an indication of the related expenditure total.

This information should be provided in summary at a sufficient level of detail to provide clarity on the key activity types driving the observed increase in base expenditure.

For example:

2025-30 total totex variance (base) expenditure, £100.000 million

- Activity one, detail of benefits to delivered, £50.000 million
- Activity two, detail of benefits to delivered, £30.000 million
- Activity three, detail of benefits to delivered, £20.000 million

Company response

Under query PRT-dWRMP-013, Ofwat has corrected a formula error in lines D1 and D2 to ensure that lines C10-12 and C13-15 are included in the capex and opex totals for enhancement expenditure. This means that the costs linked to C10-12 and C13-15 should no longer appear in line A1 (and therefore line A3). The costs in A3 will become zero for the time periods in Table A (noting that the 2020-25 header in Table A was probably meant to read 2025-30).

Date of response to Ofwat	26.01.2023

Ofwat Query 15 (PW_SoR245)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-015
Date sent to company	24 January 2023
Response due by 5pm on	26 January 2023

Query

In relation to comparisons in population forecasts between WRMP19 and draft WRMP24 can you please explain the following:

1. What the change is between the population forecast in your WRMP19 (for 2025-26 and 2029-30) and the numbers presented in your draft WRMP24 (for 2025-26 and 2029-30)?

2. Explain why this change is appropriate in the context of outturn numbers and revised population forecasts since WRMP19?

3. That your draft WRMP24 forecasts are appropriate, again in the context of new data (including new ONS forecasts) and an explanation of how you have used the Ofwat common reference scenario for growth (please provide the population number difference between the Ofwat common reference scenario and draft WRMP24 preferred plan for 2029-30, 2034-35 and 2039-40)?

Company response

1. **What the change is between the population forecast in your WRMP19 (for 2025-26 and 2029-30) and the numbers presented in your draft WRMP24 (for 2025-26 and 2029-30)?**

Total population in the draft WRMP24 is given in WRMP24 Table 3a, Reference 41BL; the 2025-26 population is 787.49 thousand and the 2029-30 population is 808.38 thousand.

Total population in the 'Final WRMP19' is given on Tab 3, Reference 53BL; the 2025-26 population is 769.03 thousand and the 2029-30 population is 784.18 thousand.

2. **Explain why this change is appropriate in the context of outturn numbers and revised population forecasts since WRMP19?**

The base year for the demand forecast in the draft WRMP24 is 2019-20. A comparison of outturn, Final WRMP19 and Draft WRMP24 population figures is provided in the table below.

The table demonstrates that the Final WRMP19 underestimated population by several thousand for 2019-20 and the Draft WRMP24 corrects the forecast to the 2019-20 outturn population.

Table A: Population comparisons (outturn, WRMP19 and Draft WRMP24)

(population in thousands) *(year)*	**Outturn**	**Final WRMP19**	**Draft WRMP24**
2019-20	745.19	738.14	745.19
2020-21	745.34	743.86	752.05
2021-22	747.03	749.05	761.21

The correction accounts for part of the difference observed in later years (2025-26 and 2029-30) between the draft WRMP24 and Final WRMP19.

3. **That your draft WRMP24 forecasts are appropriate, again in the context of new data (including new ONS forecasts) and an explanation of how you have used the Ofwat common reference scenario for growth (please provide the population number difference between the Ofwat common reference scenario and draft WRMP24 preferred plan for 2029-30, 2034-35 and 2039-40)?**

Our draft WRMP24 forecast is based on housing plan growth, as this is required to be compliant with the Water Resources Planning guidance. The forecast aligns with the Ofwat high demand scenario: "population, property and occupancy forecasts derived from local plans published by the local council or unitary authority, as used in the latest round of WRMPs, in line with the water resources planning guideline."

The Ofwat low demand scenario is described as: "population, property and occupancy forecasts derived from ONS population and household projections, as used in the latest round of WRMPs, in line with the water resources planning guideline".

We have used an adaptive planning approach for the draft WRMP24 and considered nine adaptive planning branches representing an appropriate range of equally plausible futures. Branches / Situations 7 & 8 include a shift to the ONS18 principal forecast beyond 2034-35.

The data for years 2029-30, 2034-35 and 2039-40 for the Ofwat common reference scenarios and draft WRMP24 preferred plan are provided in the table below.

Table B: Population comparisons (Draft WRMP24 and Ofwat scenarios)

(population in thousands) *(year)*	**Draft WRMP24 preferred plan**	**Ofwat high demand scenario**	**Ofwat low demand scenario**
2029-30	808.38	808.38	775.93
2034-35	828.73	828.73	788.22
2039-40	847.18	847.18	798.94

Date of response to Ofwat	26.01.2023

Ofwat Query 16 (PW_SoR246)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-016 (amended)
Date sent to company	26/01/2023 (amended 27/01/2023)
Response due by 5pm on	31/01/2023

Query

Leakage

1. Leakage data presented in table 2 – historical outturn data

In table 2 line 4NY 'total leakage' we note that the leakage data presented for the 2019-20 to 2021-22 period does not align with historical outturn leakage data as presented in your 2022 annual performance report (APR22, see summary table below).

Please can you provide an explanation for this and a provide forecast leakage trend for the 2017-18 to 2049-50 period that incorporates the outturn data for 2017-18 to 2021-22.

Year	Leakage data from APR22	Leakage data provided in WRMP24 Table 2
2019-20	24.36	28.36
2020-21	23.55	26.64
2021-22	26.9	25.34

2. Leakage data presented in table 2 – delivery of PR19 PCL

In table 2 line 4NY 'total leakage' you are forecasting to deliver a three-year average leakage level of 24.3 Ml/d in 2024-25.

Reviewing this against the 2019-20 three-year average baseline figures (28.4 Ml/d) for your PR19 performance commitment level (PCL) indicates a proposed reduction of 14.3% by 2024-25. However, your PR19 PCL for 2024-25 is to deliver a 15.2% reduction.

Could you please confirm if you intend to deliver your PR19 PCL and:

a. Provide further explanation if you do not intend to deliver the PCL;
b. Provide further explanation for the reasons why your leakage trend does not indicate it will be delivered; and
c. Provide a leakage forecast for the 2022-23 to 2034-35 period that is representative of the annual average leakage performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals.

PCC

3. PCC data presented in table 2 – historical outturn data

In table 2 line 2NY 'average household - PCC' we note that the PCC data presented for the 2019-20 to 2021-22 period does not completely align with historical outturn PCC data as presented in your 2022 annual performance report (APR22, see summary table below).

Please can you provide an explanation for this and a provide forecast PCC trend for the 2017-18 to 2049-50 period that incorporates the outturn data for 2017-18 to 2021-22. Please confirm if we can assume the table 2 trend for line 2NY 'average household - PCC' remains the same with the addition of the outturn data for the 2017-2022 period.

Year	Leakage data from APR22	Leakage data provided in WRMP24 Table 2
2019-20	149.9	150.0
2020-21	170.5	171.0
2021-22	160.3	160.0

4. PCC data presented in table 2 – delivery of PR19 PCL

In table 2 line 2NY 'average household - PCC' you are forecasting to deliver a three-year average PCC level of 145.4 l/h/d in 2024-25.

Reviewing this against the 2019-20 three-year average baseline figures (149.3 l/h/d) for your PR19 PCL indicates a proposed reduction of 2.6% by 2024-25. However, your PR19 PCL for 2024-25 is to deliver a 6.3% reduction.

Could you please confirm if you intend to deliver your PR19 PCL and:

1) Provide further explanation if you do not intend to deliver the PCL;
2) Provide further explanation for the reasons why your PCC trend does not indicate it will be delivered; and
3) Provide a PCC forecast for the 2022-23 to 2034-35 period that is representative of the PCC performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals.

Business demand

5. Business demand reductions

Please can you confirm if the total non-household consumption line 3NY in table 3 is representative of the business demand performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals?

Based on your response above please can you provide a version of the trend that is representative of the business demand performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals, covering the individual years from 2019-20 to 2039-40 (this provides greater detail of the 2030-40 period then that currently captured in table 2).

Company response

1) **In table 2 line 4NY 'total leakage' we note that the leakage data presented for the 2019-20 to 2021-22 period does not align with historical outturn leakage data as presented in your 2022 annual performance report.**

   Please can you provide an explanation for this and provide a forecast leakage trend for the 2017-18 to 2049-50 period that incorporates the outturn data for 2017-18 to 2021-22.

The total leakage data in Table 2a for the 'normal year' was updated following a previous Ofwat query in October 2022 to match the 'Leakage data from APR22' (see screenshot below).

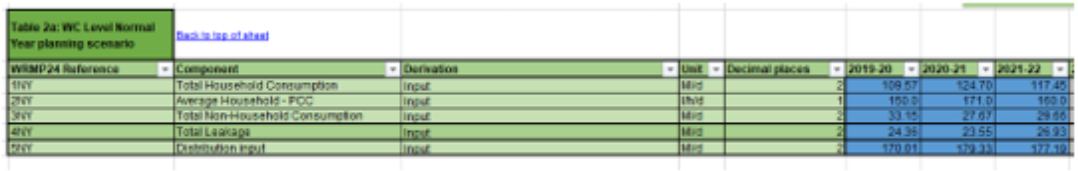


Table 2a: WC Level Normal Year planning scenario	Back to top of sheet						
WRMP24 Reference	Component	Derivation	Unit	Decimal places	2019-20	2020-21	2021-22
1NY	Total Household Consumption	Input	Mld	2	109.57	124.70	117.45
2NY	Average Household - PCC	Input	l/h/d	1	160.0	171.0	160.0
3NY	Total Non-Household Consumption	Input	Mld	2	33.15	27.67	29.66
4NY	Total Leakage	Input	Mld	2	24.36	23.55	26.93
5NY	Distribution input	Input	Mld	2	170.01	179.33	177.19

The total leakage data in Tables 2d and 2e are different and reflect data from our demand forecast which has a 2019/20 base year and an adjusted leakage figure. Appendix 4A of our draft WRMP24 explains that:

> "An artificial adjustment is made to the outturn leakage figure, increasing the outturn figure of 24.36 Ml/d to the three-year average figure 28.36 Ml/d. This 4Ml/d adjustment is made as the preceding winter conditions are deemed to be mild, using the outturn figure without the adjustment would, therefore lead to an underestimation of leakage and total Distribution Input (DI)."

We are in the process of reworking our leakage forecast to reflect a 2021-22 base year and latest information from 2022-23, but do not currently have the trend data requested. This will be presented as part of our Revised WRMP24 once reviewed and assured.

2) **In table 2 line 4NY 'total leakage' you are forecasting to deliver a three-year average leakage level of 24.3 Ml/d in 2024-25. Reviewing this against the 2019-20 three-year average baseline figures (28.4 Ml/d) for your PR19 performance commitment level (PCL) indicates a proposed reduction of 14.3% by 2024-25. However, your PR19 PCL for 2024-25 is to deliver a 15.2% reduction.**

   Could you please confirm if you intend to deliver your PR19 PCL and:

   a) **Provide further explanation if you do not intend to deliver the PCL;**
   b) **Provide further explanation for the reasons why your leakage trend does not indicate it will be delivered; and**
   c) **Provide a leakage forecast for the 2022-23 to 2034-35 period that is representative of the annual average leakage performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals.**

We expect to achieve our three-year average target on leakage. We are in the process of reworking our leakage forecast to reflect a 2021-22 base year and latest information on 2022-23, but do not currently have the trend data requested. This will be presented as part of our Revised WRMP24 once reviewed and assured.

3) **In table 2 line 2NY 'average household - PCC' we note that the PCC data presented for the 2019-20 to 2021-22 period does not completely align with historical outturn PCC data as presented in your 2022 annual performance report.**

   Please can you provide an explanation for this and provide a forecast PCC trend for the 2017-18 to 2049-50 period that incorporates the outturn data for 2017-18 to 2021-22. Please confirm if we can assume the table 2 trend for line 2NY 'average household - PCC' remains the same with the addition of the outturn data for the 2017-2022 period.

There are rounding differences associated with the 2019-2020 to 2021-22 PCC data (Table 2 versus the historical outturn PCC data).

We are in the process of reworking our PCC forecast to reflect a 2021-22 base year and latest information on 2022-23, but do not currently have the trend data requested. This will be presented as part of our Revised WRMP24 once reviewed and assured.

4) **In table 2 line 2NY 'average household - PCC' you are forecasting to deliver a three-year average PCC level of 145.4 l/h/d in 2024-25. Reviewing this against the 2019-20 three-year average baseline figures (149.3 l/h/d) for your PR19 PCL indicates a proposed reduction of 2.6% by 2024-25. However, your PR19 PCL for 2024-25 is to deliver a 6.3% reduction.**

   Could you please confirm if you intend to deliver your PR19 PCL and:
   a) **Provide further explanation if you do not intend to deliver the PCL;**
   b) **Provide further explanation for the reasons why your PCC trend does not indicate it will be delivered; and**
   c) **Provide a PCC forecast for the 2022-23 to 2034-35 period that is representative of the PCC performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals.**

Meeting our PR19 PCL for PCC will be a significant challenge owing to the Covid pandemic and the new normal of increased working from home, plus the hot dry summer of 2022.

We are in the process of reworking our PCC forecast to reflect a 2021-22 base year and latest information on 2022-23, but do not currently have the trend data requested. This will be presented as part of our Revised WRMP24 once reviewed and assured.

4) **Please can you confirm if the total non-household consumption line 3NY in table 3 is representative of the business demand performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals?**

   Based on your response above please can you provide a version of the trend that is representative of the business demand performance trend you would present in your PR24 business plan table for PCL setting based on your WRMP24 proposals, covering the individual years from 2019-20 to 2039-40 (this provides greater detail of the 2030-40 period then that currently captured in table 2).

We are in the process of reworking our demand forecast (including total non-household consumption) to reflect a 2021-22 base year, but do not currently have the trend data requested. This will be presented as part of our Revised WRMP24 once reviewed and assured.The revised trends will need to take into account the outcome of the Water Resources Planning Guideline update consultation, which includes new guidance on non-household demand reductions.

Date of response to Ofwat	03.02.2023

Ofwat Query 17 (PW_SoR78)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-017
Date sent to company	01/02/2023
Response due by 5pm on	03/02/2023

Query

In finalising our options assessments, we have noted some inconsistencies across the completion of WRMP Tables 4 and 5.

Please set out the following information on options to meet public water supply demands for those in the feasible list and preferred best value list (at 2050 where relevant), without duplication from sub-options or variants, and (where WAFU is involved) specific to your water company water resource zones.

- Number of options by type and total number
- WAFU gain of option, specific to your company, by type and total
- Saving in demand of option, specific to your company, by type and total
- % of 2050 supply / demand balance by type and total
  (i.e. 100Ml/d of options against a deficit of 50Ml/d is 200%)

A suggested table format is included below (though we would expect many more categories). Alternatively if this is already summarised in your draft WRMP or appendices, please direct us to this.

Feasible Options			
Option type	**Number of options**	**Gains in WAFU / Savings in demand on full implementation (Ml/d)**	**Contribution to addressing 2050 deficit for each option type (based on WAFU) (%)**
Supply options (e.g.:)			
Licence trading			
New groundwater			
New reservoir			
Total supply options			
Demand options (e.g.:)			
Household water audit			
Mains replacement (not trunk mains)			
Metering (compulsory)			
Total demand options			

Preferred Plan / Best Value Options			
Option type	**Number of options**	**Gains in WAFU / Savings in demand on full implementation (Ml/d)**	**Contribution to addressing 2050 deficit for each option type (based on WAFU) (%)**
Supply options (e.g.:)			
Licence trading			
New groundwater			
New reservoir			
Total supply options			
Demand options (e.g.:)			
Household water audit			
Mains replacement (not trunk mains)			
Metering (compulsory)			
Total demand options			

Company response

The WRSE group has prepared tables for this query (WRSE_Options_demands_v3.xlsx). Data is provided below for Portsmouth Water and the wider WRSE region.

Feasible list

		Portsmouth		WRSE	
Category of scheme	Common name for schemes	Volume (Ml/d)	No. of Unique Schemes	Volume (Ml/d)	No. of Unique Schemes
Abstraction licence trading	Abstraction licence trading	-	-	27	6
Aquifer recharge /Artificial recharge (AR)	Groundwater recharge	-	-	25	21
Artificial Storage and Recovery wells (or Aquifer Storage and Recovery (ASR))	Groundwater storage and recovery	-	-	20	11
Bulk transfers into region (raw)	Inter regional transfer	-	-	823	40
Catchment management schemes - Integrated catchment management	Catchment management scheme	-	6	12	334
Change in Level of Service to enhance water available for use (WAFU)		17	2	295	112
Conjunctive use operation of sources	Conjunctive use benefit from schemes	12	1	123	11
Desalination	Desalination	-	-	1,183	140
Direct river abstraction	River abstraction	-	-	843	84
Drought intervention - Drought order	Drought order to abstract from the environment	-	-	179	53
Drought intervention - Drought permit	Drought permit to abstract from the environment	1	5	32	141
Drought intervention - Temporary transfer	Drought transfer	-	-	-	1
Groundwater sources	Groundwater schemes	-	-	60	51
		-		-	-
Increase water treatment works (WTW) efficiency	Increase schemes	-	-	20	4
		-		-	-
Loss reduction - combination of schemes	Demand management savings	58	14	1,344	425
New reservoir	Reservoir	12	2	277	104
Reclaimed water, water re-use, effluent re-use	Water recycling	-	-	1,469	184
Redevelopment of existing resources with increased yields	Redevelopment schemes	-	-	16	6
Tankering of water - Sea Tankering	Tankering	-	-	-	12
Total >>		100	30	6,747	1,740
2050 DYAA >>		88		2,200	
%		113%		307%	

Preferred list

		Portsmouth		WRSE	
Category of scheme		Volume (Ml/d)	No. of Unique Schemes	Volume (Ml/d)	No. of Unique Schemes
Abstraction licence trading	Abstraction licence trading	-	-	27	2
Aquifer recharge /Artificial recharge (AR)	Groundwater recharge	-	-	24	4
Artificial Storage and Recovery wells (or Aquifer Storage and Recovery (ASR))	Groundwater storage and recovery	-	-	17	3
Bulk transfers into region (raw)	Inter regional transfer	-	-	593	5
Catchment management schemes - Integrated catchment management	Catchment management scheme	-	-	10	11
Change in Level of Service to enhance water available for use (WAFU)		17	2	295	90
Conjunctive use operation of sources	Conjunctive use benefit from schemes	12	1	114	5
Desalination	Desalination	-	-	593	13
Direct river abstraction	River abstraction	-	-	367	6
Drought intervention - Drought order	Drought order to abstract from the environment			-	-
Drought intervention - Drought permit	Drought permit to abstract from the environment			-	-
Drought intervention - Temporary transfer	Drought transfer			-	-
Groundwater sources	Groundwater schemes	-	-	54	21
		-	-	-	-
Increase water treatment works (WTW) efficiency	Increase schemes	-	-	4	2
		-	-	-	-
Loss reduction - combination of schemes	Demand management savings	58	2	1,299	60
New reservoir	Reservoir	12	1	244	6
Reclaimed water, water re-use, effluent re-use	Water recycling	-	-	613	12
Redevelopment of existing resources with increased yields	Redevelopment schemes	-	-	16	2
Tankering of water - Sea Tankering	Tankering	-	-	-	-
Total >>		98	6	4,271	242
2050 DYAA >>		88		2,200	
%		112%		194%	

Date of response to Ofwat	07.02.2023

Ofwat Query 18 (PW_SoR247)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-018
Date sent to company	23/02/23
Response due by 5pm on	28/02/23

Query

1) Please could you quantify the reduction in Ml/d requirement that arises from testing the benign common reference scenarios for climate change, demand and abstraction reductions, respectively, compared to the most likely/preferred scenarios?

Common reference scenario	Reduction in Ml/d requirement compared to most likely/preferred scenario				
	2025-30	2030-35	2035-40	2040-45	2045-50
Low climate change					
Faster technology					
Low demand					
Low abstraction reductions					

2) **Please could you confirm that, in testing the low abstraction reductions scenario, you are using the following definition:**

- **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.**

If so, please could you set out the Ml/d impact of licence reductions with significant uncertainty that you have removed from the BAU+ scenario in each AMP, to form the low abstraction reductions scenario?

The low abstraction reduction scenario includes licence capping, although we do not have any confirmed WINEP changes.

Beyond 2039-40 our preferred scenario reflects an Environment Agency BAU+ scenario (our high environmental destination scenario). As identified in our response to (1), the low abstraction reduction scenario is based on our medium environmental destination scenario post 2039-40, as it most closely aligns with using "*the agreed BAU+ scenario to form a long-term view, but use local reviews to remove licence reductions with significant uncertainty*". The medium environmental destination scenario was discussed and agreed with the local Environment Agency.

In the table at the end of this response, the figures in the 'Low abstraction reductions' row represent the difference between our high and medium environmental destination scenarios and therefore a proxy for the 'Ml/d impact of licence reductions with significant uncertainty'.

2) Please could you confirm that, in testing the low abstraction reductions scenario, you are using the following definition:

- 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.

If so, please could you set out the Ml/d impact of licence reductions with significant uncertainty that you have removed from the BAU+ scenario in each AMP, to form the low abstraction reductions scenario?

Company response

1) **Please could you quantify the reduction in Ml/d requirement that arises from testing the benign common reference scenarios for climate change, demand and abstraction reductions, respectively, compared to the most likely/preferred scenarios?**

In the table at the end of this response we have quantified the reduction in Ml/d requirement (expressed as an average for the period defined by Ofwat in the table template). Please note:

- The 'Low demand' scenario is represented by our ONS18 scenario.
- The 'Low abstraction reductions' scenario reflects our low environmental destination scenario to 2035-40 and our medium environmental destination scenario beyond 2035-40. We believe this best aligns with the Ofwat definition in question 2 ("*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.*")
- The 'Low climate change' scenario is represented by the WRSE CC20 scenario. In the Draft WRMP24 our low scenario was based on WRSE CC07, although more recent WRSE analysis has indicated that WRSE CC20 is a better fit to the Ofwat low common reference scenario (RCP 2.6). Data is provided for both CC07 and CC20.
- We have not explicitly considered a faster technology scenario in our draft WRMP24.

Please note this analysis reflects draft WRMP24 scenarios and data. These are subject to change for the revised WRMP24. In particular, the approach is being reviewed to ensure it reads across to Ofwat guidance for LTDS and accurately informs PR24 business plan.

2) **Please could you confirm that, in testing the low abstraction reductions scenario, you are using the following definition:**

- **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.**

If so, please could you set out the Ml/d impact of licence reductions with significant uncertainty that you have removed from the BAU+ scenario in each AMP, to form the low abstraction reductions scenario?

The low abstraction reduction scenario includes licence capping, although we do not have any confirmed WINEP changes.

Beyond 2039-40 our preferred scenario reflects an Environment Agency BAU+ scenario (our high environmental destination scenario). As identified in our response to (1), the low abstraction reduction scenario is based on our medium environmental destination scenario post 2039-40, as it most closely aligns with using "*the agreed BAU+ scenario to form a long-term view, but use local reviews to remove licence reductions with significant uncertainty*". The medium environmental destination scenario was discussed and agreed with the local Environment Agency.

In the table at the end of this response, the figures in the 'Low abstraction reductions' row represent the difference between our high and medium environmental destination scenarios and therefore a proxy for the 'Ml/d impact of licence reductions with significant uncertainty'.

Common reference scenario	Reduction in Ml/d requirement compared to most likely/preferred scenario (Annual Average scenario)				
	2025-30	2030-35	2035-40	2040-45	2045-50
Low climate change (CC07)	0.3	0.3	1.7	3.5	3.8
Low climate change (CC20)	1.4	1.6	2.3	4.7	5.1
Faster technology	n/a	n/a	n/a	n/a	n/a
Low demand	3.2	4.2	5.1	6.3	7.8
Low abstraction reductions	0	0	5.1	28.6	37.6

Date of response to Ofwat	1/3/2023

Ofwat Query 19 (PW_SoR248)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-019
Date sent to company	23 February 2023
Response due by 5pm on	28 February 2023

Query

These set of queries are to help us understand your approach to climate change impact forecasting and the consequences to the supply-demand balance in your draft WRMP. This builds on the related query looking at all the benign common reference scenarios compared to the WRMP24 most likely equivalents.

1. Can you please provide the following data on the forecast climate change impact on deployable output (DO), and provide a confirmation that these match those presented in the latest draft WRMP data tables (for the WRMP24 values):

WRMP iteration / scenario	**2025-26**	**2030-31**	**2035-36**	**2040-41**
Impact on DO in final WRMP19 preferred plan (Ml/d)				

Impact on DO in draft WRMP24 preferred plan (Ml/d)				
Impact on DO in draft WRMP24 low common reference scenario (Ml/d)				

2. Can you please outline and describe the following:

    a. The WRMP19 climate change emission scenario, projection(s) and percentile probability level used.

    b. The WRMP24 preferred plan climate change emission scenario, projection(s) and percentile probability level used.

    c. The WRMP24 low common reference scenario climate change emission scenario, projection(s) and percentile probability level used.

3. Can you please quantify (in Ml/d) the climate change uncertainty contribution to target headroom for 2025, 2030, 2035 and 2040, and explain and justify why this is appropriate given the chosen scenario/projection and probability levels applied in the draft WRMP24 preferred plan?

4. Explain and provide justification for the draft WRMP24 preferred plan climate change emission scenario, projection(s) and percentile probability level used, and the appropriateness for this planning period and in the context of adaptive planning.

Company response

1. **Can you please provide the following data on the forecast climate change impact on deployable output (DO), and provide a confirmation that these match those presented in the latest draft WRMP data tables (for the WRMP24 values):**

The table below provides the data upon which our WRMPs are based.

WRMP iteration / scenario	2025-26	2030-31	2035-36	2040-41
Impact on DO in final WRMP19 preferred plan (Ml/d)	-0.28	-0.46	-0.64	-0.82
Impact on DO in draft WRMP24 preferred plan (Ml/d)	-4.08	-4.64	-5.21	-5.76
Impact on DO in draft WRMP24 low common reference scenario (Ml/d)	-3.83	-4.37	-4.90	-5.44

2. **Can you please outline and describe the following:**

    a. **The WRMP19 climate change emission scenario, projection(s) and percentile probability level used.**

The WRMP19 climate change impact assessment involved identifying a representative sample of 100 climate change scenarios from the UKCP09 10,000 member ensemble for the 2080s under a Medium Emission Scenario.

Latin Hypercube Sampling (LHS; McKay et al., 1979) was used to identify the 100 scenarios. This is a statistical sampling procedure which aims to capture the full range of a dataset across multiple dimensions. In the context of the WRMP19 work and the UKCP09 climate change scenarios, the LHS considered the covariance across eight dimensions: precipitation and temperature for winter (DJF), spring (MAM), summer (JJA) and autumn (SON).

There was good alignment of 10th and 90th percentiles for the 100 scenarios and the full 10,000 member ensemble, demonstrating that the sample chosen was a good representation of the full 10,000. Therefore the calculated median climate change

impacts from the sample should represent approximately a 50th percentile of the values from the UKCP09 Medium Emissions Scenario.

b. The WRMP24 preferred plan climate change emission scenario, projection(s) and percentile probability level used.

Our dWRMP24 preferred plan follows a path in which we initially use the median climate change impact from the scenarios modelled and then adopt a 'high' scenario from 2040 onwards.

The profile of values adopted for the median scenario is calculated by finding the median impact of the 28 spatially coherent projections (RCP8.5). The value used in this scenario is therefore considered to be representative of the 50th percentile of the RCP8.5 projections.

The profile of values adopted for the 'high' scenario is calculated using the 'CC06' scenario (one of the 28 RCM projections). This scenario is approximately a 75th percentile value of the 28 RCM projections (RCP8.5).

The approach is being reviewed for the Revised WRMP24. In particular, the approach is being reviewed to ensure it reads across to Ofwat guidance for LTDS and accurately informs PR24 business plan.

c. The WRMP24 low common reference scenario climate change emission scenario, projection(s) and percentile probability level used.

The specified Ofwat low common reference scenario is the 50th percentile of RCP2.6 probabilistic projections. Modelling within the WRSE group shows that the 50th percentile of the RCP2.6 probabilistic projections is very close to the 50th percentile of the RCP8.5 probabilistic projections, and so we have adopted a different 'low' scenario.

The scenario that we adopted as a 'low' scenario is 'CC07', which was deemed to represent a 25th percentile value of the 28 spatially coherent projections projections (RCP8.5).

The approach is being reviewed for the Revised WRMP24. In particular, the approach is being reviewed to ensure it reads across to Ofwat guidance for LTDS and accurately informs PR24 business plan.

3. Can you please quantify (in Ml/d) the climate change uncertainty contribution to target headroom for 2025, 2030, 2035 and 2040, and explain and justify why this is appropriate given the chosen scenario/projection and probability levels applied in the draft WRMP24 preferred plan?

The table below shows the contribution of climate change impacts to Target Headroom through the planning period (taken from the submitted WRMP24 tables).

WRMP iteration / scenario	2025-26	2030-31	2035-36	2040-41
CC Contribution Towards TH	0.51	0.53	0.54	0

Beyond 2040 we have not included a contribution from climate change towards Target Headroom. This is because the WRSE Regional Adaptive plan explicitly branches on different climate change scenarios. Accounting for additional climate change-related Target Headroom on top of high to low adaptive plan scenarios would risk double counting uncertainties.

The approach is being reviewed for the Revised WRMP24. In particular, the approach is being reviewed to ensure it reads across to Ofwat guidance for LTDS and accurately informs PR24 business plan.

4. **Explain and provide justification for the draft WRMP24 preferred plan climate change emission scenario, projection(s) and percentile probability level used, and the appropriateness for this planning period and in the context of adaptive planning.**

Our preferred plan scenario initially involves a projection of impact which is approximately the 50th percentile of impacts found across the 28 spatially coherent projections (RCP8.5), with an allowance for climate change in Target Headroom. Later in 2040, our preferred plan transitions to an impact projection which is approximately the 75th percentile of impacts found across the 28 spatially coherent projections (RCP8.5) with no additional allowance made in Target Headroom. Scenarios of approximately the 25th and 50th percentile are also included in our adaptive plan post 2040.

This profile is appropriate as it initially follows the median projection (the median being suitable as it avoids an unduly high or low climate change impact value being adopted), with an allowance in Target Headroom to ensure robustness. It is appropriate to use a 'High' rather than 'Medium' climate change scenario in the long term to ensure alignment between our climate change impact planning and our Environmental Destination planning (the 'High' Environmental Destination aligns with the EA-developed Environmental Destination modelling, which is based on the most extreme of the Future Flows scenarios for the South East of England). In the long-term (post 2040) it is appropriate to exclude climate change in target headroom, due to the risk of double counting uncertainties which are considered explicitly in our adaptive plan.

Date of response to Ofwat	01.03.2023

Ofwat Query 20 (PW_SoR80)

Draft Water Resource Management Plans (WRMP) 2022 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-020
Date sent to company	24 February 2023
Response due by 12 noon on	1 March 2023

Query

These set of queries are to help us understand your approach to drought orders and permits and the consequences to the supply-demand balance in your draft WRMP.

1. Please provide the following data on the impact of planned changes in use of supply-side drought orders and permits on the supply-demand balance between WRMP19 and WRMP24 and over time in the draft WRMP24:

WRMP iteration / scenario	**2025-26**	**2030-31**	**2035-36**	**2040-41**	**2045-46**
Assumed drought order and permit benefits to supply-demand balance – final WRMP19 (Ml/d)					

Number of drought orders and permits included in plan					
Assumed drought order and permit benefits to supply-demand balance – draft WRMP24 preffered plan (Ml/d)					
Number of drought orders and permits included in plan					

2. Where there are differences in the benefits that supply-side drought orders and permits make between the WRMP19 and WRMP24 plans please explain why. For example, changes in assumed benefit or planned frequency of use, etc.
3. Where there are differences in the benefits that drought orders and permits make over time please explain why. For example, changes in assumed benefit or planned frequency of use, etc.
4. Please explain the process for choosing the planned changes in drought order and permit use in the draft WRMP24? For example is it a company policy choice, or has each order/permit been assessed based on environmental risk and the costs/benefits against other options. If it is based on a risk based or CBA approach please provide details of each.

Company response

1. **Please provide the following data on the impact of planned changes in use of supply-side drought orders and permits on the supply-demand balance between WRMP19 and WRMP24 and over time in the draft WRMP24:**

The table below has been populated using WRMP19 and draft WRMP24 annual average data.

WRMP iteration / scenario	2025-26	2030-31	2035-36	2040-41	2045-46
Assumed drought order and permit benefits to supply-demand balance – final WRMP19 (Ml/d)	8.5	8.5	8.5	8.5	8.5
Number of drought orders and permits included in plan	1	1	1	1	1
Assumed drought order and permit benefits to supply-demand balance – draft WRMP24 preffered plan (Ml/d)	3.6	1.3	1.3	1.3	0
Number of drought orders and permits included in plan	1	1	1	1	0

2. **Where there are differences in the benefits that supply-side drought orders and permits make between the WRMP19 and WRMP24 plans please explain why. For example, changes in assumed benefit or planned frequency of use, etc.**

The WRMP24 benefit of the drought permit has been reduced from the WRMP19 vaules following testing within our new Pywr water resources model.

3. **Where there are differences in the benefits that drought orders and permits make over time please explain why. For example, changes in assumed benefit or planned frequency of use, etc.**

Beyond AMP8, the WRMP24 benefit changes from a 1 in 200 year benefit to a 1 in 500 year benefit. Beyond 2040-41, WRMP24 assumes that drought permits are no longer availabe.

4. **Please explain the process for choosing the planned changes in drought order and permit use in the draft WRMP24? For example is it a company policy choice, or has each order/permit been assessed based on environmental risk and the costs/benefits against other options. If it is based on a risk based or CBA approach please provide details of each.**

We only have one drought permit within our 2022 drought plan and this has been retained for the draft WRMP24. This drought permit option is included within the WRSE investment model so that the costs/benefits are compared against other options.

In line with the national framework, WRSE has not increased the use of drought measures to meet the 1 in 500 year drought resilience level and have met the expectation that permits and orders should be used less frequently. We recognise the level of environmental risk with drought permits and orders and therefore these options are removed from the 1 in 500 scenario beyond 2040-41 in the WRSE investment model.

Date of response to Ofwat	01.03.2023

Ofwat Query 21 (PW_SoR274)

Draft Water Resource Management Plans (WRMP) 2023 queries process

Company	Portsmouth Water
Query number	PRT-dWRMP-021
Date sent to company	06/06/2023
Response due by 5pm on	20/06/2023

Query

Thank you for contributing to the query process during our draft WRMP assessment.

For our continued engagement on the WRMP process, and preparations leading into the PR24 process including the relevant parts of the PR24 Quality and Ambition Assessment (QAA)[1], we have identified some areas which require additional clarification.

Understanding mapping and assumptions for costs, benefits and performance in WRMP data tables, RAPID gate submissions and PR24 business plan tables.

1. Cost data is presented in different formats throughout the WRMP data tables and also for the RAPID gated process. However, we expect consistency between these and clear mapping to understand any assumptions made when allocating costs between tables and lines. The PR24 methodology made clear that we expect final WRMPs to be consistent with submitted business plans: This consistency should include the scale and timing of need, the performance levels forecast to be delivered, and associated investments and requested enhancement costs.

Can you please confirm that the costs in following WRMP data tables and any RAPID gate submissions will be based on the same core data, using the same cost assumptions and clearly state how the costs interact and map between data lines (eg what cost metric lines in table 5a-c are used to inform the totex presented in table 4 – totex prior to option in use and table 8 – expenditure lines):

- Table 4 – Options appraisal summary (in particular 'totex prior to option in use')
- Table 5a-c – Cost profiles
- Table 8 – Business plan links

2. We also expect the water resource (Ml/d) benefits of options/programmes presented in the WRMP data tables and RAPID gated process to be consistent. Can you please confirm that the benefits to the supply-demand balance (Ml/d) in following WRMP data tables and the RAPID gate submissions will be based on the same data and clearly state how the benefits interact and map between tables:
    - Table 4 – Options appraisal summary (in particular 'Gains in WAFU / Savings in Demand on full implementation (Ml/d)')
    - Table 5 – Option benefits
    - Table 8 – Business plan links

3. For performance data can you confirm that the WRMP performance trends for PCC, leakage and business demand presented on an annual basis (ie not three year averages) will form the basis of your PR24 business plan PCL submissions.

    Can you clearly explain how PR24 will relate to/are derived from the data in your WRMP tables eg links to dry year annual average figures. This data should be provided in lines 1NY to 5NY of WRMP data table 2 with data for the 2019-20 to 2022-23 period populated with outturn data as reported in annual performance reporting.

    Please note that lines 1NY to 4NY have the following equivalents in the latest issue of the PR24 business plan tables see - PR24 Final methodology submission tables and guidance - Ofwat & PR24-BP-table-guidance-part-1-OutcomesV4.pdf (ofwat.gov.uk):
    - Line 1NY – Total Household Consumption - OUT4.43
    - Line 2NY - Average Household – PCC - OUT4.45
    - Line 3NY - Total Non-Household Consumption - OUT4.70
    - Line 4NY - Total Leakage - OUT4.31

Please highlight any areas of uncertainty where you believe that companies may be taking different approaches.

Company response

1. **Cost data is presented in different formats throughout the WRMP data tables and also for the RAPID gated process. However, we expect consistency between these and clear mapping to understand any assumptions made when allocating costs between tables and lines. The PR24 methodology made clear that we expect final WRMPs to be consistent with submitted business plans: This consistency should include the scale and timing of need, the performance levels forecast to be delivered, and associated investments and requested enhancement costs.**

   Can you please confirm that the costs in following WRMP data tables and any RAPID gate submissions will be based on the same core data, using the same cost assumptions and clearly state how the costs interact and map between data lines (eg what cost metric lines in table 5a-c are used to inform the totex presented in table 4 – totex prior to option in use and table 8 – expenditure lines):
   - **Table 4 – Options appraisal summary (in particular 'totex prior to option in use')**
   - **Table 5a-c – Cost profiles**
   - **Table 8 – Business plan links**

Portsmouth Water is not responsible for any RAPID gate submissions. However, please note that WRSE modelling is completed using data provided by the WRSE water companies including that for Strategic Regional Options (SROs).

We fully recognise the requirement for final WRMPs to be consistent with submitted business plans, including the scale and timing of need, the performance levels forecast to be delivered, and associated investments and requested enhancement costs. Our revised draft WRMP24 and business planning teams have been working together to ensure alignment on these aspects with appropriate sign-off. With respect to interaction of costs and mapping between data lines in Tables 4, 5 & 8:

Table 4 and Tables 5a/b are generated using the exact same data and the Total NPC in Table 5a and 4 should be the same (please note in the draft tables the formulae to calculate the Total NPC in 5a was incorrect and did not cover all years of the table, but when all years are summed they are the same). Please note that costed risk and optimism bias is not shown in Table 5b and needs to be taken from 5a to see the total capex. Likewise all other cost lines/columns that are based on the full capacity of the option should be consistent (Table 4 includes some totex/opex lines at average utilisation, these use the same source

variable opex data per Ml but use a different utilisation to Table 4 so totals will be different), for example:

a. 'Totex expenditure prior to option in use (£m)': this will be the same as the sum of all 5a capex and opex cells in the years prior to the option being available for use (i.e. the number of years defined by the 'Option benefits lead-in time (Years)' column of Table 4).
b. 'Totex expenditure per annum post option in use under maximum utilisation scenario (£m)' : If all capex and opex rows in Table 5a were summed to give a totex row then the average (over years) of this row for years where the option is available for use.

Please note for totex rows we have reported capex plus opex, not financed costs.

Likewise Table 5a and costs in Tables 8 are consistent using the same source data but the following needs to be taken into account:

a. Table 5a/b shows costs against years based on the **earliest possible** spend of data in the years columns (as 5a/b is for all feasible options it cannot be based on actual year selected). Table 8 is based on the **year the option is selected for requirement**. i.e. the costs are the same but potentially against different years.
b. Table 5a/b show costs over **80 years** from first investment to ensure consistency between all feasible options. Table 8 only shows costs in the planning horizon (i.e. up to 2075).
c. Table 5a/b variable costs are based on **full utilisation** of the option. Table 8 variable costs are based on the modelled (optimisation) **DYAA utilisation**

2. **We also expect the water resource (Ml/d) benefits of options/programmes presented in the WRMP data tables and RAPID gated process to be consistent. Can you please confirm that the benefits to the supply-demand balance (Ml/d) in following WRMP data tables and the RAPID gate submissions will be based on the same data and clearly state how the benefits interact and map between tables:**
    - **Table 4 – Options appraisal summary (in particular 'Gains in WAFU / Savings in Demand on full implementation (Ml/d)')**
    - **Table 5 – Option benefits**
    - **Table 8 – Business plan links**

Portsmouth Water is not responsible for any RAPID gate submissions.

Table 5 shows the full benefit of options in DYAA other than transfers and conjunctive use that are proportional to transfers which show utilisation. With regard to how the various tables align:

a. The WAFU column in Table 4 is the maximum DYAA benefit in a single year over 80 years from first investment (i.e. to align with 5a, the AIC calculation),
    i. for most supply options this will be the same as the maximum value of benefit in Table 5 (as benefit is usually the same for all years)
    ii. for demand options and potentially one or two others the maximum benefit may be after 2075 so there may not be a visual link between table 4 WAFU and table 5 but it uses the same source data
    iii. for transfers as described above transfers will show utilisation in table 5 but the WAFU in table 4 shows the capacity of the transfer so unless the transfers runs at capacity they will not align
    iv. for options that don't provide WAFU (but are required to realise the WAFU of other options, like an in zone transfer or a water treatment works for another source of raw water) these will show as n/a in the WAFU column (though size will be shown in a new capacity column) and in table 4 should show as 0 in years they are available.
    v. Please note that the WAFU (and table 4) show for DYAA, some options only have benefit (or are only utilised) in DYCP or NYAA, as such sometimes options will show with 0 in both these tables, even though they do have benefit, data for table 4 exists behind the scenes for DYCP and NYAA
    vi. Please also note that the EA require WAFU data for unconstrained options in table 4, however this has not always been provided to WRSE so may appear as blank or zero, these can be added if data is provided
b. Table 5 and table 3b should align (taking into account that one option in table 4 may be in multiple rows of table 3b)
c. Table 8e is being updated in the revised draft to show in period benefit of options following an Ofwat query of the draft tables. Table 8e will show the full size benefit of the option in the period it is first available (or for demand options the change in benefit in the given period).
    i. Table 8e will align (other than the benefit will only be shown against the period it is first available) with table 5 for new resource and demand options as these are based on capacity (i.e. max benefit) in both tables.
    ii. Transfers will not necessarily algin as table 5 will show utilisation in the given year and table 8e will show the size of the transfer in the period it is built

iii. In zone elements (network enhancements WTW etc.) will show as 0 in table 5 (as they provide no new WAFU) but will show their size against '*internal connectors' in table 8e as the row is for 'benefit'

3. **For performance data can you confirm that the WRMP performance trends for PCC, leakage and business demand presented on an annual basis (ie not three year averages) will form the basis of your PR24 business plan PCL submissions.**

   Can you clearly explain how PR24 will relate to/are derived from the data in your WRMP tables eg links to dry year annual average figures. This data should be provided in lines 1NY to 5NY of WRMP data table 2 with data for the 2019-20 to 2022-23 period populated with outturn data as reported in annual performance reporting.

   Please note that lines 1NY to 4NY have the following equivalents in the latest issue of the PR24 business plan tables see - PR24 Final methodology submission tables and guidance - Ofwat & PR24-BP-table-guidance-part-1-OutcomesV4.pdf (ofwat.gov.uk):

   - **Line 1NY – Total Household Consumption - OUT4.43**
   - **Line 2NY - Average Household – PCC - OUT4.45**
   - **Line 3NY - Total Non-Household Consumption - OUT4.70**
   - **Line 4NY - Total Leakage - OUT4.31**

   Please highlight any areas of uncertainty where you believe that companies may be taking different approaches.

We confirm that the WRMP performance trends for PCC, leakage and business demand presented on an annual basis within our revised draft WRMP24 tables will form the basis of our PR24 buisness plan PCL. The revised draft WRMP24 tables are due for submission end of August 2023, but the demand management aspects will be submitted end of July 2023 as agreed with Ofwat.

The WRMP yearly values in Lines 1NY to 4NY (Normal Year data) will run straight through to PCLs for PR24. They will be converted to 3-year averages for AMP8 and beyond.

Date of response to Ofwat	20.6.2023